U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION 1

RECORD OF DECISION SUMMARY

FOR

WEST SITE/HOWS CORNER SUPERFUND SITE

PLYMOUTH, MAINE

September 2006

RECORD OF DECISION SUMMARY
WEST SITE/HOWS CORNER SUPERFUND SITE
PLYMOUTH , MAINE

TABLE OF CONTENTS

PART ONE: THE DECLARATION

PART TWO: THE DECISION SUMMARY

PART THREE: THE RESPONSIVENESS SUMMARY

TABLES

FIGURES

APPENDICES

DECLARATION FOR THE RECORD OF DECISION

A. SITE NAME AND LOCATION

West Site/Hows Corner Superfund Site
Plymouth, Penobscot County, Maine
CERCLIS Identification Number: MED985466168
PRP Lead

B. STATEMENT OF BASIS AND PURPOSE

This decision document presents the selected remedial action for the West Site/Hows Corner Superfund Site (Site), in Plymouth, Maine, which was chosen in accordance with the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended (CERCLA), 42 USC § 9601 et seq., and, to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 CFR Part 300 et seq., as amended. The Deputy Director of the Office of Site Remediation and Restoration (OSRR) has been delegated the authority to approve this Record of Decision.

This decision was based on the Administrative Record, which has been developed in accordance with Section 113 (k) of CERCLA, and which is available for review at the Plymouth Town Hall in Plymouth, Maine and at the United States Environmental Protection Agency (EPA) Region 1 Office of Site Remediation and Restoration Records Center in Boston, Massachusetts. The Administrative Record Index (Appendix F of this Record of Decision (ROD)) identifies each of the items comprising the Administrative Record upon which the selection of the remedial action is based. The State of Maine concurs with the Selected Remedy.

C. ASSESSMENT OF THE SITE

The response action selected in this ROD is necessary to protect the public health or welfare or the environment from actual or threatened releases of hazardous substances into the environment.

D. DESCRIPTION OF THE SELECTED REMEDY

This ROD follows the September 2002 Interim ROD (September 2002 ROD) for the West Site/Hows Corner Superfund Site (the Site) that addressed the non-source groundwater, defined as the groundwater underlying the Site where total volatile organic compounds (VOCs) concentrations were below 10 parts per million (ppm). The September 2002 ROD included four remedy components: installation and operation of a groundwater containment system to cut off the source area groundwater; implementation of institutional controls to prevent exposure to contaminated groundwater; access to public water; and long-term monitoring of groundwater, sediment and surface water.

This ROD sets forth the final remedy for the Site, augmenting the remedy components previously selected. The final remedy includes the following components: a determination that with the installation and operation of the groundwater containment system, restoration of the non-source area groundwater will occur within a reasonable timeframe through monitored natural attenuation (MNA or monitored natural attenuation); a technical impracticability waiver for the source area groundwater; and an investigation of, and response to, if necessary, the potential vapor intrusion pathway from the contaminated groundwater into indoor air. This final remedy is a comprehensive approach that addresses all current and potential future risks associated with groundwater contamination. As a result of previous response actions, contaminated groundwater is the only medium requiring remedial action.

The major components of this remedy are:

1. Determination that federal and state drinking water quality standards will be met in the non-source area groundwater through MNA;
2. Technical impracticability waiver for the source area groundwater;
3. Investigation of and appropriate response to the potential vapor intrusion pathway from contaminated groundwater to indoor air;
4. Five-year reviews.

The selected response action, in conjunction with the remedy selected in the September 2002 ROD, addresses principal and low-level threat wastes at the Site as follows:

Principal Threats					
Source/Source Media	**Affected Media**	**Contaminants**	**Maximum Concentration (from validated data used in HHRA)**	**Reason(s)**	**Receptors**
DNAPL	Groundwater	VOCs	Bedrock Groundwater (in ug/L): 1,1-DCE (57) cis-1,2-Dichloroethene (630) 1,1,1-TCA (1000) Tetrachloroethene (32,000) Trichloroethene (7,250) 1,2,4-trichlorobenzene (150) Aroclor 1260 (119) Dieldrin (0.24) Arsenic (42.5) Manganese (8540)	Mobility Toxicity	Residents
Low-Level Threats					
Source/Source Media	**Affected Media**	**Contaminants**	**Maximum Concentration (from validated data used in HHRA)**	**Reason(s)**	**Receptors**
Groundwater	Indoor Air Potential, not confirmed	VOCs	To be measured in an investigation following this ROD	Mobility Toxicity	Residents

E. STATUTORY DETERMINATIONS

The selected remedy for the Site is protective of human health and the environment, complies with Federal and State requirements that are applicable or relevant and appropriate to the remedial action (unless justified by a waiver (see F. Special Findings, below)), is cost-effective, and utilizes permanent solutions and alternative treatment (or resource recovery) technologies to the maximum extent practicable.

The remedy also satisfies the statutory preference for treatment as a principal element as the hydraulic containment system provides some reduction in toxicity, mobility, and volume of contaminants through the extraction, treatment, and containment of contaminated groundwater.

Because this remedy will result in hazardous substances remaining on-site above levels that allow for unlimited use and unrestricted exposure (groundwater and/or land use restrictions are necessary), a review will be conducted every five years after initiation of remedial action to ensure that the remedy continues to provide adequate protection of human health and the environment.

F. SPECIAL FINDINGS

Issuance of this ROD embodies specific determinations made by the Regional Administrator or his designee pursuant to CERCLA. From an evaluation of data collected following the September 2002 ROD, EPA has concluded that it is technically impracticable to restore the source area groundwater to drinking water quality within a reasonable timeframe. EPA reached this conclusion based on the following factors: contaminant concentrations suggest the presence of dense, non-aqueous phase liquid (DNAPL) in the bedrock within the source area; the source is now entirely located within the bedrock as the overburden soils were removed as part of earlier response actions; the bedrock has a complex, heterogeneous structure making extraction difficult; in-situ oxidation would not be successful in addressing this contamination based upon a pilot study; and no other technology was identified that could restore the groundwater to drinking water quality within a reasonable timeframe. As a result, this ROD waives certain specified federal and state chemical-specific ARARs.

G. ROD DATA CERTIFICATION CHECKLIST

The following information is included in the Decision Summary section of this Record of Decision. Additional information can be found in the Administrative Record file for this Site.

1. Contaminants of concern (COCs) and their respective concentration
2. Baseline risk represented by the COCs
3. Cleanup levels established for COCs and the basis for the levels
4. How source materials constituting principal threats are addressed
5. Current and reasonably anticipated future land assumptions and current and potential future beneficial uses of groundwater used in the baseline risk assessment and ROD
6. Potential land and groundwater use that will be available at the Site based on result of the selected remedy
7. Estimated capital, operation and maintenance (O&M), and total present worth costs; discount rate; and the number of years over which the remedy cost estimates are projected
8. Key factor(s) that led to selecting the remedy

H. AUTHORIZING SIGNATURES

This ROD documents the selected remedy for the West Site/Hows Corner Superfund Site. This remedy was selected by EPA with concurrence of the Maine Department of Environmental Protection (MEDEP).

U.S. Environmental Protection Agency

By: _____ Date: 9/28/06

Richard Cavagnero, Deputy Director
Office of Site Remediation and Restoration
Region 1

PART 2: THE DECISION SUMMARY

A. SITE NAME, LOCATION, AND BRIEF DESCRIPTION

West Site/Hows Corner Superfund Site
Plymouth, Penobscot County, Maine
CERCLIS Identification Number: MED985466168
PRP Lead

The West Site/Hows Corner Superfund Site (the Site) is located on Sawyer Road, Penobscot County, Plymouth, Maine (see Figure 1). The Site is defined as a 17-acre parcel of land that was owned by George West (George West property), the groundwater beneath this parcel, and the surrounding properties where contamination has come to be located. Mr. West used a two-acre portion of his property to operate a waste oil facility from 1965 to 1980 (Figure 2). This two-acre portion of the Site and the groundwater beneath it is referred to as the "Source Area" to distinguish it from the term "Site" that, as previously mentioned, also includes the groundwater beneath the surrounding properties where contamination has come to be located. The area surrounding the Source Area is rural residential with mixed woods and open fields. In 1995, EPA placed the Site on the National Priorities List (NPL) because of the discovery of contaminated soil within the Source Area and contaminated groundwater underlying the Source Area and surrounding properties.

A more complete description of the Site can be found in Section 1 of the Remedial Investigation Report (RI) (Woodard & Curran, July 2001).

B. SITE HISTORY AND ENFORCEMENT ACTIVITIES

1. History of Site Activities

From 1965 to 1980, Mr. West operated a waste oil storage and transfer facility within a two-acre portion of his 17-acre parcel of land. Waste oils were stored in eight aboveground storage tanks (ASTs) ranging in volume from 1,000 to 20,000 gallons. According to documents obtained from Mr. West and other sources, in excess of 235,000 gallons of waste oil and other liquids were received at the facility for storage and transfer during operations. After separating the waste oils based on density, lighter oils were sold to greenhouses, paper companies, and others as fuels, and heavier oils were spread on dirt roads for dust control. Operations ceased in 1980, and the tanks were disassembled and sold as scrap.

A more detailed description of the Site History can be found in Section 1.3 of the RI Report.

2. History of Federal and State Investigations and Removal and Remedial Actions

Environmental investigations were initiated in 1988 by MEDEP after contaminated groundwater was discovered in a residential well that was sampled during a pre-purchase environmental assessment of Mr. West's property in 1987. MEDEP sampled other wells in the immediate area and found 10 residential wells contaminated with chemicals often used as industrial solvents or degreasers (e.g., tetrachlorethene "PCE", trichloroethylene "TCE"). As an emergency response measure, MEDEP provided bottled water and installed dual in-line granular carbon filters to all homes with contaminated water. MEDEP completed a Preliminary Assessment of the Site in June 1989, and subsequently completed a preliminary groundwater investigation in March 1990. Based on the results of the preliminary investigations, and the desire to

provide a permanent, safe water supply for nearby residents, MEDEP requested the assistance of EPA in July 1990 after determining that the costs to implement the necessary removal actions were beyond the resources available to MEDEP. Consequently, EPA completed a Removal Action in 1990-91 that included the installation of a fence around the two-acre Source Area and the excavation and off-site disposal of approximately 847 tons of contaminated soil within this area. In March 1994, EPA/MEDEP completed construction of the public water supply system that provided safe water to 33 residences surrounding the Source Area, with the potential to provide water to several additional residences. The Site was placed on the NPL in September 1995.

In October 1999, the West Site/Hows Corner Superfund Site Group of Potentially Responsible Parties (PRP Group) voluntarily agreed to perform a Remedial Investigation/ Feasibility Study (RI/FS or Remedial Investigation and Feasibility Study) at this Site. This agreement was subsequently formalized in an Administrative Order (RI/FS AOC) with EPA that was finalized in May 2000. The Remedial Investigation was initiated in October 1999 and included: groundwater, surface water, sediment, surface soil, and air sampling; installation of bedrock monitoring wells; residential well sampling; packer testing of bedrock wells; geophysical surveys and bedrock mapping; and computer modeling of groundwater and contaminant movement through the bedrock aquifer. Additional fieldwork was conducted in the Spring of 2000 to supplement the Fall 1999 sampling program. Data from the RI was then used to complete a Baseline Human Health and Ecological Risk Assessment Report. A final RI, including the baseline risk assessments was presented to EPA in July 2001. In the fall of 2001, the PRP Group performed a pilot study to assess the effectiveness of in-situ chemical oxidation in remediating the Source Area. To gain access to the bedrock, the PRP Group removed about 850 tons of soil within the fenced area of the George West property. This soil was disposed of offsite as investigation derived waste at an appropriate waste disposal facility.

Following issuance of a Proposed Plan in June 2002 for a remedy for the non-source area groundwater, EPA signed a ROD on September 24, 2002. This remedy focused on the non-source area groundwater as there was insufficient data pertaining to the source area groundwater to select a remedy for that portion of the Site. The September 2002 ROD included four major components: installation and operation of a groundwater containment system to cut off the source area groundwater; implementation of institutional controls to prevent exposure to contaminated groundwater; access to public water; and long-term monitoring of groundwater, sediment and surface water.

In addition to these components, the 2002 ROD stated that additional characterization of the groundwater needed to be conducted in order to answer two questions that the 2002 ROD was unable to address. These two questions were as follows: 1) whether the non-source area groundwater could attain applicable or relevant and appropriate requirements (ARARs) through monitored natural attenuation within a reasonable timeframe; and 2) whether it was technically practicable to restore the source area groundwater to drinking water quality within a reasonable timeframe. As a result, additional fieldwork was performed beginning with groundwater sampling in Spring 2003 and concluding with a pump test and sampling in Fall 2004. This post-ROD characterization forms the basis for this final Record of Decision.

A summary of the CERCLA investigations at the Site is included in Table 1.

3. History of CERCLA Enforcement Activities

The CERCLA enforcement activities at the Site are summarized below:

- In May 1998, EPA issued 104(e)/General Notice letters to approximately 400 potentially responsible parties (PRPs or potentially responsible parties) who either generated or transported waste to the Site.

- In May 1998, an Administrative Order by Consent (Removal AOC) for continued monitoring of residential wells was signed by approximately fifteen PRPs. The purpose of this Removal AOC was to ensure that nearby residences would be provided with safe drinking water in the event that sampling results from their existing residential wells showed site-related contaminants in excess of state and federal drinking water standards.

- In October 1999, the PRP Group, representing over 100 PRPs, volunteered to conduct an RI/FS on its own. The terms of this undertaking were outlined in the RI/FS Administrative Order by Consent that was executed in May 2000.

- In September 2000, EPA sent a settlement proposal in the form of a Consent Decree (CD) to each of the PRPs. This settlement resolved each PRP's financial liability for past costs incurred at the Site. Over 130 parties signed the CD that resulted in EPA recovering over $2.5 million in past response costs. This CD was entered in U.S. District Court on December 4, 2001. After this CD was finalized, EPA sent a settlement proposal to approximately 80 additional parties that was based on their documented financial "ability to pay." This settlement was entered by the Court on April 11, 2002.

- In May 2004, an Administrative Order by Consent for the Remedial Design (RD AOC) of a portion of the 2002 ROD was finalized. This RD AOC was signed by approximately 100 parties. The main purpose of this RD AOC was to continue moving forward with the design of the groundwater containment system while the technical practicability of restoring the source area groundwater was being evaluated.

C. COMMUNITY PARTICIPATION

Prior to the installation of the public water supply, community concern and involvement were high. Community interest remained high through the RI/FS period and up to the time that the September 2002 ROD was issued. Since the September 2002 ROD was signed, community interest has decreased. Below is a brief chronology of the recent public outreach efforts.

- On May 23, 2006, EPA published a notice of availability of the Proposed Plan in a local newspaper

- On May 31, 2006, EPA held a meeting to present the Agency's Proposed Plan to the community. At this meeting, representatives from EPA and MEDEP answered questions from the public. EPA also made the administrative record available for public review at EPA's offices in Boston and at the Town Hall in Plymouth, Maine.

- From May 31, 2006 to June 30, 2006, the Agency held a 30-day public comment period to accept public comment on the alternatives presented in the Proposed Plan and on any other documents previously released to the public.

- On June 28, 2006, EPA and MEDEP held a formal public hearing in Plymouth, Maine to discuss the Proposed Plan for the remedial action at the Site and accept formal public comment. A transcript of this meeting, the comments received, and the Agency's response to comments are included in the Responsiveness Summary, which is part of this ROD.

Additional community outreach efforts are documented in the Administrative Record for this Site.

D. SCOPE AND ROLE OF OPERABLE UNIT OR RESPONSE ACTION

The selected remedy for the Site addresses source area and non-source area groundwater taking into account decisions made in the 2002 ROD. For the source area groundwater, EPA will waive chemical-specific ARARs for a limited portion of the Site, acknowledging the technical impracticability of restoring groundwater within this area to federal and state drinking water quality standards within a reasonable timeframe. For the non-source groundwater, drinking water standards will be met in about 40 – 80 years through natural attenuation processes. This decision relies on the fact that the 2002 ROD requires construction of a groundwater extraction and treatment system to prevent highly contaminated groundwater from migrating from the source area to non–source area groundwater. In addition, implementation of institutional controls and long-term monitoring required by the September 2002 ROD will ensure that the remedy remains protective in the long term. As required by the 2002 ROD, residential wells that are in use prior to the completion of institutional controls will be sampled with a requirement that public water be provided should sampling indicate that people are being exposed to contaminants that pose an unacceptable risk. Finally, this ROD addresses the potential threat that remains from groundwater should vapors from groundwater present an unacceptable risk to residents/occupants of buildings above the contaminated groundwater by investigating this potential risk and then, if required, taking appropriate action to address this risk.

In summary, the response action contained in this ROD addresses the remaining threats to human health and the environment posed by groundwater at the Site.

This ROD represents the culmination of several previous investigations/response actions that have occurred for the Site. These prior efforts are summarized below.

In 1987, following the discovery of contaminated groundwater in a residential well, in an emergency response measure, MEDEP provided bottled water to, and installed dual in-line granular carbon filters in, all homes found to have contaminated water.

In 1990 and 1991, EPA performed a removal action, including excavation of 847 tons of contaminated soil and construction of a fence around the Source Area.

In August 1994, EPA and MEDEP completed the construction of a public water supply system as an alternative to private residential wells near the Hows Corner Site (See Figure 20). The public water supply is located approximately 1.25 miles west of the Site, and consists of extraction wells, a pump station and a water distribution network. The water supply wells extract groundwater from bedrock fractures outside the area of contaminated groundwater. The system was designed to serve residences in the vicinity of the Site and provided water to 35 residential dwellings by December 1996, 32 of which are located in what has since become identified as the Institutional Control Zone.

In December 1995, EPA transferred all of its interest in the public water supply system to the State of

Maine. On August 30, 2001, the State conveyed all of its interest in the public water supply system to the Plymouth Water District. The Plymouth Water District is a public water district that was chartered in the early 1990s to serve residents whose wells had been impacted by site-related contaminants, or were believed to be threatened based on information available at the time.

EPA implemented a residential well monitoring program in 1996 to prevent the consumption of contaminated groundwater by residents in the vicinity of the George West property. This monitoring program focused on residences that had not been connected to the public water supply system as part of the earlier removal action. The PRPs took over implementation of the program from EPA in March 1998. The program initially involved monthly, quarterly, or annual sampling and VOC analysis of tap water, depending upon potential for exposure, and the reporting of the results, along with an explanation of the significance of any VOCs detected by sampling. A letter was sent to the residents and a monthly report was sent to EPA that presented the analytical data, data validation, and screening of detections against MCLs. The monitoring program also included, and continues to include, a periodic inspection of specified residences in the vicinity of the George West property that are unoccupied. If a residence becomes occupied, the status of the residence is changed from inspection to monitoring.

The residential monitoring program initially collected samples from more than 30 residences. As residences were connected to the public water supply, they were removed from the residential sampling program, thereby reducing the number of residences that are monitored. The program for 2005 included 18 residences.

Through the efforts of the PRP Group, the water main has been extended along Loud Road, Hopkins Road, and State Route 7, and an additional 23 connections to the public water system were made at 18 lots within the Institutional Control Zone (ICZ), for a total of 58 connections at 53 lots within the ICZ as of December 15, 2005. Further upgrades to the water system made by the PRP Group include the installation of a 140,000 gallon water storage tank, water level control system and associated equipment, which have also been deeded over to the Plymouth Water District.

The September 2002 ROD included putting in place institutional controls, construction and operation of a hydraulic containment system, long-term monitoring, and five-year reviews to assure the protectiveness of the remedy. Since the signing of the 2002 ROD, just over 80% of the properties within the Site now have restrictive covenants put in place preventing the use of the groundwater. In 2003 the Town of Plymouth adopted an ordinance restricting the use of groundwater within a designated area (see Appendix A). The design of the hydraulic containment system is underway and it is expected that design will be completed in spring 2007. Long-term monitoring of the groundwater is also expected to resume later in 2007. The first five-year review is scheduled for 2008.

E. SITE CHARACTERISTICS

The sources of contamination, release mechanisms, exposure pathways to receptors for contaminated groundwater as well as other site-specific factors, are presented in a Conceptual Site Model (CSM). The CSM is a three-dimensional "picture" of migration routes and potential receptors. It documents current site conditions and shows what is known about human and environmental exposure through contaminant release and migration to potential receptors. The risk assessment and response actions for the groundwater and potential vapor intrusion are based on this CSM.

The CSM for the Site is based on the Final RI Report and Final Technical Impracticability Evaluation (Woodard & Curran, July 2001 and April 2006, respectively). The CSM illustrates that the groundwater underneath the George West property and surrounding area is contaminated by chlorinated solvents (predominantly PCE), and to a lesser extent, polychlorinated biphenyls (PCBs). In addition, because concentrations of PCE within the Source Area have historically remained high, it is likely that a remnant PCE source remains within the fractures of the rock beneath the Source Area. Consequently, PCE is continuing to dissolve in the Source Area forming a groundwater plume that migrates underneath the George West property and a number of additional properties.

Section 1 of the FS Report (Woodard & Curran, July 2002) contains an overview of the supplemental soil sampling that was performed during a 2001 groundwater pilot study that required the excavation of soil within the Source Area to allow access to the bedrock fractures. Because this soil excavation occurred in areas where EPA previously removed contaminated soil as part of the 1990-91 Removal Action, the soil was tested and subsequently disposed of off-site as investigative derived waste (IDW or investigative derived waste) in 2001 as it contained concentrations of lead and PCBs that were above levels considered to be protective. As a result of the 1990-91 Removal Action and the subsequent disposal of IDW in 2001, soils remaining within the Source Area no longer contribute to the degradation of water quality or pose an unacceptable risk. Because of this, the CSM focuses on groundwater and potential vapor intrusion as all other sources of contamination and pathways have been addressed through previous activities. The significant findings of the RI and the 2003 – 2004 technical impracticability fieldwork are summarized below.

1. Site Setting, Geology and Hydrogeology

The West Site/Hows Corner Superfund Site is situated in a rural section of east-central Maine in the Town of Plymouth. The Site includes the 17-acre George West property and all areas where groundwater contamination has come to be located (see Figure 2). All but two acres of the George West property (the Source Area) have been recently revegetated after being clear-cut approximately 15 years ago. This two-acre portion is located along Sawyer Road, and topographically, it occupies a local high spot. Bedrock is exposed at the surface for much of the two acres. The immediate surface elevation surrounding the Source Area decreases in all directions, with a steeper drop to the north and west. A small, unnamed pond and associated wetlands abut the eastern side of the Source Area. Plymouth Pond is located approximately one-half mile to the north of the Source Area, and Martins Stream, which drains into Plymouth Pond is located to the south. The closest residence is located approximately 100 feet to the south.

Geology

The surficial materials at the Site are comprised of various sands and compacted sand, silt, and gravel deposits placed during the advancement and retreat of glacial ice sheets. Glacial till is the most extensive surficial deposit within the Site, and is the only deposit underlying the George West property. This till lies in direct contact with the bedrock and while it is laterally extensive, it is also discontinuous at higher elevations. The till is comprised of a heterogeneous mixture of sands, silts, clays, and gravels and varies in density from dense to loose. Within the Source Area, these unconsolidated soils range from zero to five feet. Deposits outside of the Source Area are generally thicker, but for the most part, unsaturated at the higher elevations in the area. See Figure 3 for a map of the surficial geology.

The bedrock geology beneath the Site consists of alternating layers of metasedimentary rock of phyllite grade with the majority of fractures occurring in the top 85 feet. Three sets of bedrock fractures have been mapped at the Site with the primary set of fractures having a strike running northeast to southwest, and a

near vertical dip. Observations made during drilling indicate that the bedrock becomes more competent with depth and to the west of the Site. Groundwater flow beneath the Source Area is entirely in bedrock and discharges upward to the overburden as it moves away from the Source Area along the flanks and bottom of the hill. Bedrock within the Source Area is exposed because of previous removal actions undertaken at the Site. Other bedrock outcrops are visible outside the Source Area. See Figure 4 for an isopach map of the area showing the thickness of the overburden soil above the bedrock.

Hydrogeology

A total of 24 monitoring wells were installed as part of the RI. Another 11 borings were drilled as part of the technical impracticability fieldwork, and seven of these were converted into monitoring wells. Observations of drilling rates, return water characteristics, and air losses encountered while drilling were used as a basis for identifying fractures within the bedrock. Based on the number of fractures and drilling characteristics observed, the frequency of fracturing within the Source Area and surrounding properties was interpreted to decrease considerably at depths greater than 85 feet below ground surface (bgs).

During the summer of 2004, geophysical logging of newly installed bedrock boreholes was conducted using caliper, temperature, single point resistance, spontaneous potential, acoustic televiewer and heat pulse flow meter measurements. The acoustic televiewer log scans the borehole wall with an acoustic beam to create an image of the borehole that can be used to identify planar features such as fractures, bedding surfaces, and joints. The acoustic televiewer log can often determine the strike, dip direction, and dip angle of these planar features. Figure 5 is a rose diagram created from the 2004 acoustic televiewer logging showing the strike and dip of all the interpreted features. The plot shows that there is a range of strike orientations, but the predominant strike direction is approximately N50° E (50°). An additional predominant strike direction is approximately N80° E.

Flow meter, fluid resistivity, and temperature logs were used to identify fractures most likely to be water bearing from the previously-identified planar features. Figure 6 is a rose diagram created from the 2004 geophysical logging showing the strike and dip of likely water bearing fractures in the newly installed boreholes. The results showed that the likely water bearing fractures had a wide range of strike directions, but that two strike directions predominated. The first was N45° E (45°), which is consistent with the primary fracture orientation observed in outcrops measured during the RI. The second was N75° W (285°), which is a more westerly direction than was observed in outcrops, during the RI. The net effect of the orientation of the likely water-bearing fractures is to promote generally northward flow in bedrock groundwater.

Geophysics also revealed that these likely water-bearing fractures dip in all directions, with the predominate direction being southeast. The median dip as measured during the geophysical logging is 50°. The predominant strike direction is consistent with that reported in the RI (W&C, 2001); however, the dip of the features is shallower than was previously thought based on outcrop observations. The orientation of the most transmissive fracture identified in an individual borehole is not necessarily the same as the overall trend of features identified from all wells. As a result, groundwater movement within individual bedrock fractures is complex, although the overall pattern may be more readily discerned from potentiometric data and contaminant data.

Based on drilling to depths of as much as 182 feet bgs (Table 2), the RI (W&C, 2000) concluded that in general, the frequency of fracturing decreases with depth. The depth at which fracture frequency decreases varies over the Site, occurring generally between 50 and 85 feet bgs. Based on the observed number of fractures and drilling characteristics, the frequency of fracturing at the Site was interpreted to decrease

considerably at depths greater than approximately 85 feet bgs. Based on the interpretation from the RI, five of the holes drilled during the TI investigation were drilled to 100 feet bgs and one was drilled to approximately 135 feet bgs. Although the 2004 geophysical logging data are relatively limited for depths greater than 85 feet bgs, they support the previous understanding that water bearing fractures occur primarily in the more shallow bedrock (less than 85 feet bgs), and decrease in number with depth (greater than 85 feet bgs).

Based on the geologic conditions at the Site, groundwater flows within a single, unconfined flow system in two distinct geologic media, the unconsolidated overburden and the bedrock. However, because the overburden underlying the George West property is unsaturated and relatively thin or, as in the Source Area, absent entirely, groundwater flow in the vicinity of the Source Area is entirely within the bedrock. Bedrock flow discharges to the overburden along the flanks of the hill, and in several locations, springs are found where very steep cuts and topographic changes in the bedrock surface intersect the bedrock groundwater table. As overburden thickens and the topographic elevations drop, groundwater discharging from the bedrock begins to saturate the overburden along the flanks of the hill, forming small surface water bodies in areas where topographic depressions intersect the overburden groundwater table. These depressions function as groundwater withdrawal points by allowing water to leave the flow system through increased evapotranspiration, and in some cases, overland flow through intermittent streams.

Groundwater flow in the bedrock is controlled by the nature, frequency, and distribution of fractures occurring within the bedrock. Data collected during the RI and technical impracticability evaluation indicate that groundwater flow is radial immediately adjacent to the Source Area before it is incorporated into the greater regional flow to the north. Horizontal groundwater flow is restricted to the west of the Source Area due to the presence of a fault and is affected by the withdrawal of groundwater to shallow surface water bodies, and springs located near the Source Area, and prior to the connections to the Plymouth Water system, by irrigation or stock wells. Because the bedrock flow system has very low storage, small withdrawals from any one of these sources in the past had a significant localized effect on the flow of bedrock groundwater. With the implementation of institutional controls and the transition to public water from individual private water wells following the 2002 ROD, the extent of the radial flow outward from the Source Area has diminished. Overall groundwater flow is to the north-northeast and is shown in Figure 7.

The vertical flow of groundwater is directly related to the interconnectivity of fractures with depth, the continuity of steeply dipping bedding fractures, the horizontal gradients, and the ability of the upper and lower portions of the bedrock flow system to drain. Near the Source Area, the vertical gradient is generally downward within the upper bedrock such that flow outward from the Source Area is predominantly in the upper bedrock. This flow in the upper bedrock manifests itself on the flanks of the hill where the water table intersects with the ground elevation and many seeps and springs are present.

Packer permeability testing of 15 of the boreholes completed as wells during the RI showed that hydraulic conductivity of bedrock intervals containing fractures is an order of magnitude higher than in intervals without fractures. Because many of the boreholes were completed as well couplets, the water level of the shallow borehole was monitored during the packer testing of the deeper borehole. In general, the water level of these shallow wells did not respond when water was injected into the deeper borehole indicating that the fractures are poorly connected between the deep and shallow portions of the paired boreholes. Collectively, this information led to the conclusion that the deeper zones of the bedrock do not transmit water as readily as the shallower bedrock zones.

Packer testing of boreholes was conducted during the 1999 drilling program (Table 3) and the 2004 TI Evaluation field program (Tables 4 and 5). The calculated permeabilities ranged from 9.44×10^{-7} to 4.71×10^{-3} centimeter/second (cm/s) (0.0027 to 13.4 feet/day). The hydraulic conductivities computed from the packer tests are indicative of the permeabilities of the fractures and joints present in the bedrock and do not represent the permeability of the competent, whole rock. For boreholes where every 10-foot section of the borehole was tested, only those intervals where fractures were observed exhibited measurable hydraulic conductivities. In addition, the hydraulic conductivity is related to the number of fractures within the zone tested. The fact that zones with observed fractures exhibited higher hydraulic conductivities, coupled with the decreasing frequency of observed fractures with depth, leads to the conclusion that the bulk water-transmitting properties of the rock decreases with depth.

2. Nature and Distribution of Contamination

This section describes the nature and distribution of contaminants in groundwater as determined by sampling events conducted during the RI and technical impracticability evaluation. Comprehensive groundwater sampling data collected through September 2004 are included in this ROD as Table 6. Groundwater sampling locations are indicated in Figure 8. Since soils, surface water, and sediments were determined to not pose an unacceptable risk in the 2002 ROD, they are not discussed further. For a discussion on the nature and distribution of contaminants in soil, surface water, and sediment, see Section E.2 of the 2002 ROD. (Surface water and sediment samples were not collected during the technical impracticability fieldwork but will be part of the long-term monitoring program for the 2002 ROD)

Air

Ambient air was sampled during the RI to assess the potential for soil potentially contaminated by VOCs to adversely affect ambient air by off-gassing from the Source Area. Air samples were located to be representative of the Source Area, and at upwind/downwind locations. Because acetone was the only VOC detected, off-gassing of VOCs into air was not an issue at the time of 2002 ROD given that acetone was not found in soil at significant concentrations, and it is a common laboratory contaminant.

After the 2002 ROD was signed, EPA issued a guidance document pertaining to the potential pathway of vapors moving from contaminated groundwater into indoor air spaces. This guidance was developed after VOC contaminants, partitioning into the gaseous phase from the dissolved aqueous phase, were found migrating through low pressure zones (such as higher permeable soils or utility trenches) into buildings at other sites. This possible pathway could be present above the Hows Corner groundwater plume. An investigation is required to determine whether this pathway exists at the Site and whether or not it presents an unacceptable risk to human health.

Groundwater

Three groundwater sampling events were performed as part of the RI/FS and two additional groundwater sampling events were performed post-2002 ROD for the technical impracticability evaluation. During the RI/FS, groundwater samples were collected from 24 existing MEDEP monitoring wells, 24 monitoring wells installed in the RI, and 25 residential wells. The samples were analyzed for a full range of contaminants (VOCs, SVOCs, PCBs, and metals). The post-2002 ROD sampling included 21 existing wells and 8 new wells that were analyzed for VOCs. The results of this sampling are summarized below:

- VOCs in groundwater are the significant contaminant related to operations in the 2-acre fenced area.
- PCE is the predominant VOC compound detected in the groundwater at the Source Area.

- Low concentrations of VOCs were detected at some of the surface water and sediments sampling locations, but VOCs were not detected in Plymouth Pond. VOCs are migrating in contaminated groundwater that discharges to the surface at seeps or surface water bodies.
- The VOC plume has reached its maximum extent. The available data from perimeter monitoring locations suggest that the plume configuration has remained relatively constant since 1989. Many of the perimeter wells were sampled in 1989, 1999, and 2004 (see Table 7). The plume is elongated along primary bedrock fractures and historically has been influenced by residential well pumping and variations in recharge and discharge to surface water bodies. Overall, however, the distribution of the plume is determined by the local topography and the regional groundwater flow.
- Very limited biodegradation of VOCs appears to be occurring in groundwater in the Source Area (W&C, 2001 [RI Section 4.5.2]).
- PCBs were detected in groundwater in three wells within the Source Area (W&C, 2001] [RI Section 4.4.4.3]).
- The pesticide dieldrin was detected in one Source Area well at a concentration in excess of its MEG. (W&C, 2001, [RI Section 4.4.4.4]).
- Arsenic has been detected in one Source Area well (MW-2IB) and at a concentration below its MCL, it has been detected in excess of the arsenic MCL in samples from various distances and directions from the Source Area: 300 feet and 2,200 feet north (MW-5B and MW-17SO); 1,300 feet south (MW-111D); and 500 feet west (MW-4O).
- Manganese does appear to be site-related. Although manganese has been detected at or above its MEG in source area groundwater wells (e.g., MW-101S, MW-2DB) and non-source area groundwater wells (MW-110D, MW-106S), the highest manganese concentrations have been detected in source area groundwater wells. Because the highest concentrations of manganese are in or near the Source Area, it appears that elevated manganese concentrations are representative of the likely reducing conditions caused by the degradation of site-related contaminants in the Source Area.
- Arsenic concentrations and manganese concentrations do not appear to be spatially correlated, in that relatively elevated arsenic concentrations do not vary either directly or inversely with manganese concentrations (Figure 9) nor do they have the same spatial distribution (Figure 10).
- Natural attenuation is primarily occurring through dilution and dispersion. Contaminant concentrations near the perimeter of the plume exhibited only minor variability (typically one to five µg/L) during the 6- to 10- month period of sampling associated with the RI. In addition, results of groundwater analyses from MEDEP monitoring wells near the perimeter of the plume during the period between 1989 and 1999 exhibited similar limited variability.

Figures 11 and 12 illustrate the distribution of VOCs in the shallow and deeper bedrock aquifer based on the data collected during the RI. Figures 13 and 14 illustrate the distribution of VOCs in the shallow and deeper aquifer based on the data collected during the technical impracticability evaluation. Figure 15 shows PCE concentrations with depth during the RI. Figure 16 shows PCE concentrations with depth during the technical impracticability evaluation. Because PCE generally accounts for 90 percent or more of the total VOC concentration in groundwater, the PCE and VOC plumes are similar. Comparing the figures shows that the overall configuration of the plume has not noticeably changed between the RI and TI fieldwork. Collectively, these figures show that the VOC plume extends in all directions from the Source Area, but is elongated in the northerly and northeasterly directions. In addition, the isoconcentration gradients to the west and south of the Source Area are steeper than those observed in other directions within the shallow bedrock aquifer, and those observed in deep bedrock groundwater. Further information regarding the nature and extent of groundwater contamination can be found in Section 4.4 of the RI report and Section 4.2 of the TI Evaluation Report.

3. Fate and Transport of Contamination

Based on work completed during the RI, a conceptual model for the occurrence of contamination in groundwater was developed for the Site. This conceptual model was updated with data collected during the technical impracticability evaluation. Note that this discussion focuses on PCE as it was identified to be the primary risk driver for the Site. However, the discussion and conclusions can be applied to the other contaminants of concern as they will have fate and transport characteristics similar to PCE.

As shown in the Figure 17, groundwater flows radially outward from the Source Area as it occupies a local topographic high. Interconnected bedrock fractures are virtually the only avenue for contaminant migration. Recharge falling on the George West property in the form of snow or rain percolates into the bedrock underlying the Source Area, where it contacts high concentrations of PCE residing in the bedrock fractures. Thereafter, groundwater dissolves the PCE and carries the contamination to downgradient locations or areas having lower groundwater elevations.

The distribution of fractures, topographic gradients, and residential pumping wells caused the contaminants to migrate north and east of the Source Area. As shown in Figure 17, flow to the west is restricted by the fault zone and the more competent rock that is associated with it. Figure 18 shows the conceptual understanding of how fewer bedrock fractures below 85 feet restrict groundwater flow and PCE migration. Monitoring of water levels in adjacent wells during packer testing showed that the fractures at depth are not well connected to the shallower fractures. With fewer fractures and lower interconnectivity, and resulting lower hydraulic conductivity, groundwater flow and contaminant migration is restricted west of the Source Area, and remains in the upper portions of fractured rock. The primary forces controlling the migration of contaminants include the hydraulic head differences created by drops in elevation, and local points of groundwater discharge created by surface springs.

The groundwater model for the Site was constructed based on the conceptual understanding discussed above. The purpose of the modeling was to simulate the groundwater flow through the system such that a detailed water balance analysis could be completed, and aid in determining the potential long-term fate and transport of the contaminant plume including plume stability. The groundwater model was calibrated to existing conditions at the Site. Once calibration of the model was achieved, a sensitivity analysis of the values applied to the model was performed to ensure that the model provided a valid approximation of groundwater flow. Based on the results of the modeling, and all data collected during the RI and TI, the PCE groundwater plume depicted in Figure 14 represents the maximum extent of groundwater contamination originating from the Site.

While it is unlikely that the groundwater plume would extend any further, changes of existing groundwater use patterns within the known extent of groundwater contamination could result in changes to the shallow and deep bedrock plume PCE boundaries depicted in Figure 16. Consequently, these figures assume that current groundwater use patterns remain constant.

4. Technical Impracticability Determination

Water quality data collected during the RI/FS suggested restoration of the source area groundwater might not be feasible. Consequently, EPA and Maine DEP required a group of PRPs to evaluate whether it would be technically practicable to restore the source area groundwater to drinking water standards, including Maximum Contaminants Levels (MCLs) and Maine Maximum Exposure Guidelines (MEGs).

Restoration of contaminated groundwater is one of the primary objectives of the Superfund program. The NCP states that "EPA expects to return usable ground waters to their beneficial uses wherever practicable, within a time frame that is reasonable given the particular circumstances of the site." 40 C.F.R. 300.430(a)(1)(iii)(F). Generally, restoration cleanup levels in the Superfund program are established by ARARs, such as the use of federal or state standards for drinking water quality.

Further, under CERCLA, an alternative selected to address contamination at a Site must achieve the ARARs identified for the action, or provide the basis for waiving the ARARs. ARARs may be waived for any of six reasons, including where compliance with the requirement is technically impracticable from an engineering perspective. See Section 121(d)(4) of CERCLA and 40 C.F.R. 300.430(f)(1)(ii)(C).

The primary considerations for determining the technical impracticability (TI) of achieving ARARs are engineering feasibility and reliability. See NCP Preamble, 55 Fed. Reg. 8748 (March 8, 1990). EPA's Guidance for Evaluating the Technical Impracticability of Ground-Water Restoration, (OSWER Dir. 9234.2-25, September 1993, Interim Final) specifies the following components as necessary for a TI evaluation:

1. Specific ARARs or media standard for which TI determinations are sought;

2. Spatial area over which the TI decision will apply;

3. Conceptual model that describes site geology, hydrogeology, groundwater contamination sources, fate and transport;

4. An evaluation of the restoration potential, including predictive analyses of the time frames to attain required cleanup levels and a demonstration that no other remedial technologies could be capable of achieving groundwater restoration; and

5. Cost estimates of the proposed remedy options.

Following a TI evaluation, EPA's goal of restoring contaminated groundwater within a reasonable timeframe will be modified where restoration is technically impracticable. In such cases, EPA will select an alternative remedial strategy that is technically practicable, protective of human health and the environment, and satisfies the requirements of CERCLA and the NCP. Where groundwater ARARs are waived at a Superfund site due to technical impracticability, EPA's general expectations are to prevent further migration of the contaminated groundwater plume, prevent exposure to the contaminated groundwater, and evaluate further risk reduction measures as appropriate. See 40 C.F.R. 300.430(a)(1)(iii)(F). These expectations should be evaluated along with the nine remedy selection criteria provided in the NCP.

1. The specific ARARs and medium for the TI determination

Under the EPA Groundwater Protection Strategy, EPA has classified the aquifer beneath the Site as a

Class I aquifer, i.e., groundwater currently used as a drinking water source and potentially a source for drinking water in the future. Thus, Maximum Contaminant Levels (MCLs), and non-zero Maximum Contaminant Level Goals (MCLGs), established under the Safe Drinking water Act, are potentially federal ARARs.

The state Maximum Exposure Guidelines (MEGs) are also potentially state ARARs for this Site. The MEGs are promulgated health-based standards that address drinking water quality for private residential wells. MEGs may be used as relevant and appropriate requirements in establishing groundwater remediation goals.

The chemical-specific MCLs and MEGs for which a technical impracticability waiver will apply for the source area groundwater are listed in Table 8 below.

Table 8: ARARs To Be Waived for the Source Area Groundwater

Contaminants of Concern in Groundwater	Cleanup Level (parts per billion)	Basis for Cleanup Level	Maximum Concentrations (ppb) and their locations[1]
Tetrachloroethene (PCE)	3	MEG[2]	32,000 MW-104I
Trichloroethene (TCE)	5	MCL[3]	7,250 MW-2IB
1,1-Dichloroethene (DCE)	7	MCL	57 MW-103S
Cis-1,2-Dichloroethene	70	MCL	1,000 MW-2IB
Trans-1,2-Dichloroethene[4]	70	MEG	12 MW-2IB
1,2,4-Trichlorobenzene	70	MCL	160 MW-2DB
1,1,1-Trichloroethane	200	MCL	1,000 MW-104I
Vinyl Chloride[4]	0.2	MEG	0.6 MW-2IB
Dieldrin	0.02	MEG	0.24 MW-2IB
PCBs (Arochlor 1260)	0.05	MEG	119 MW-2DDB
Manganese	200	MEG	8,540 MW-101S

(1) See Figure 8 for the location of the monitoring wells
(2) State Maximum Exposure Guidelines for drinking water
(3) Federal Maximum Contaminant Levels for drinking water
(4) Trans-1,2-Dichloroethene and vinyl chloride were not identified as contaminants of potential concern in the 2001 FS or chemicals of concern in the 2002 ROD. These chemicals have been added because they are degradation products of PCE and TCE.

2. Spatial Extent of Technical Impracticability Zone

This section describes the proposed horizontal and vertical extent over which the Technical Impracticability decision would apply (TI Zone). This includes the portion of groundwater that contains VOCs above federal MCLs and state MEGs where EPA has determined that the timeframe to meet these requirements using currently available technologies is unreasonable. The estimated cleanup timeframes for groundwater containing VOCs are discussed below.

The TI Zone encompasses the portion of the horizontal extent of the VOC plume shown in Figure 19 and extends vertically to the deep bedrock. The TI Zone encompasses the area where VOCs are present in groundwater at concentrations above 10,000 µg/L (Source Area), and the probable DNAPL Zone (the sub-surface area in the bedrock where DNAPL likely is present). The majority of the groundwater flow through the TI zone, and all of the groundwater flow through the DNAPL Zone, will be contained by installation of the hydraulic containment system. The TI Zone has been extended outside of the Source Area and DNAPL Zone to follow established property boundaries, to the extent practical, in order to simplify the description of the boundaries of the TI Zone. All residences on those lots or portions of lots included in the TI Zone (i.e., lots 17 and 17-1), other than Lot 27, which is the George West 17-acre parcel of land, were connected to the public water system when it was constructed in 1995.

3. Conceptual Site Model

The conceptual site model is based upon the evaluation of the site geology, hydrogeology, distribution of contaminants, the fate and transport processes of the contaminants, and potential receptors that have been described above. The conceptual model serves as a foundation for evaluating the restoration potential of the Site and, thereby technical impracticability as well. This conceptual model has been developed through review of reports of previous investigations and previous conceptual models. The current model should be seen therefore as a continuing refinement of previous models, reflecting the analytical data and subsurface investigations. It forms the basis for evaluating potential remedial actions. See Figures 17 and 18 for map and cross-section views of the conceptual site model.

The major conclusions of the conceptual site model are as follows:

- Contamination within the Source Area is entirely within the bedrock;
- The majority of the contaminant mass, primarily PCE, is within the upper 85 feet of the bedrock;
- The bedrock has a low matrix porosity and hydraulic conductivity;
- The potential for diffusion of groundwater contaminants into the bedrock matrix exists, which would provide a long-term source of groundwater contamination through the slow diffusion of the contaminant from the bedrock back into the groundwater;
- Groundwater and contaminant flow through the bedrock is constrained by the fractures within the bedrock, forming an irregular and complex pathway;
- Contaminated groundwater flows northerly from the Source Area bedrock toward Plymouth Pond, with the contaminant plume attenuating in the vicinity of Loud Road;
- The contaminated groundwater discharges from the bedrock to the overburden soils in the non-source area and to surface water bodies where the water table intersects the surface elevation; and
- Given the low flow rate of groundwater through the Source Area, it was estimated that it would take 470 to 540 years for the source area plume to attain drinking water standards through natural attenuation processes.

4. Restoration Potential

These findings provide the basis for EPA's evaluation of potential remedial actions for the source area groundwater. A preliminary assessment had been performed as part of the 2001 FS. In the FS, both in-situ technologies and ex-situ treatment were screened against the criteria of effectiveness, implementability, and cost. In-situ technologies included in this screening were physical barriers, collection alternatives using trenches or wells, chemical oxidation, chemical flushing, enhanced

biodegradation, air sparging, and nanoscale particle injection. Ex-situ treatment included in this screening included uv/oxidation; carbon adsorption; thermal oxidation; and air stripping (See Table 9 for a complete list of technologies and treatments). None of the technologies was effective enough and/or sufficiently implementable to support a further evaluation of these technologies. As a result, as the technical impracticability evaluation progressed, research was conducted to determine whether there were any new advances in technologies that could potentially make one of the options evaluated in the 2002 FS capable of reducing contaminant concentrations in groundwater so that the groundwater could be used as drinking water in the future.

When these technologies and treatments were reassessed during the technical impracticability evaluation, some were not sufficiently effective. Other newer technologies have not yet been implemented in bedrock settings and therefore their implementability and effectiveness were uncertain. Finally, there were technologies with high costs and uncertain effectiveness that were also screened out. Consequently, none of the active technologies was carried forward to the final evaluation step.

In addition to this screening process, in 2001, a pilot study of an emerging technology was conducted on the George West property. This study involved the injection of potassium permanganate into the bedrock as a chemical oxidant that would break down the VOCs in-situ. Upon completion of this study, it was concluded that this technology did not have the capability to restore the source area groundwater to drinking water quality within a reasonable timeframe.

As a result of the screening process and this pilot study, the only remaining alternatives for analysis for source area groundwater are the limited action alternative (including a technical impracticability waiver) and a no-further action alternative, the latter being required by the Superfund law. These alternatives are further discussed in Section J below.

Based on this evaluation, EPA has determined that it is technically impracticable to restore the source area groundwater within a reasonable timeframe with currently available technologies.

5. Cost Estimates

With the exception of costs associated with the vapor intrusion characterization, and engineering controls, if necessary, there are no other costs associated with the alternatives that were retained for evaluation as all actions required to be conducted were included in the cost estimates in the 2002 ROD. Based on vapor intrusion characterizations at other sites in New England, these costs have generally been performed for $100,000 to $200,000.

F. CURRENT AND POTENTIAL FUTURE LAND AND RESOURCE USES

The area surrounding the George West property is currently residential and it is assumed that the area will continue to be used as residential property in the future. The 17-acre property currently includes 15 acres that are undeveloped. This undeveloped property is currently inactive with no existing building structures other than the fence surrounding the 2-acre Source Area. The Source Area is essentially cleared although there are trees along the fence line. The majority of the area within the fence is exposed to bedrock. Groundwater underlying this property is currently unsuitable as a drinking water source. Reasonably anticipated reuse options of the George West property would likely be limited to areas outside of the Source Area and could include residential or conservation/recreational uses as these uses would be consistent with the historical use of the property and would likely be compatible with the surrounding

residential properties. Because it is anticipated that non-source area groundwater will attain federal and state drinking water quality standards within a reasonable timeframe upon the implementation and operation of the hydraulic containment system, a reasonably anticipated reuse option for the non-source area groundwater includes its use as a drinking water source.

G. SUMMARY OF SITE RISKS

During the 1999-2001 RI/FS, a baseline human health risk assessment (HHRA) and an ecological risk assessment were performed to identify hazardous substances, exposure pathways, and to evaluate the toxicities associated with these substances and pathways. The risk assessment concluded that there would be an unacceptable risk from source area and non-source area groundwater if used in the future for drinking water by residents. Because of this unacceptable risk, the remedy selected in the 2002 ROD for the non-source area groundwater required land use restrictions as well as active containment to prevent migration of the most contaminated groundwater.

The HHRA provided the basis for taking action and identified the contaminants and exposure pathways that needed to be addressed by the selected remedy in the 2002 ROD. The HHRA followed a four step process: 1) hazard identification, which identified those hazardous substances which, given the specifics of the Site were of significant concern; 2) exposure assessment, which identified actual or potential exposure pathways, characterized the potentially exposed populations, and determined the extent of possible exposure; 3) toxicity assessment, which considered the types and magnitude of adverse health effects associated with exposure to hazardous substances, and 4) risk characterization and uncertainty analysis, which integrated the three earlier steps to summarize the potential and actual risks posed by hazardous substances at the Site, including carcinogenic and non-carcinogenic risks and a discussion of the uncertainty in the risk estimates. A summary of those aspects of the HHRA that supported the need for remedial action is discussed below followed by a summary of the ecological risk assessment.

1. Human Health Risk Assessment

The HHRA performed an evaluation of risk to contaminants found in surface water, sediment, soil, and groundwater. As the human health risks attributed to contaminants detected in surface water, sediment, and soil were deemed acceptable whereas the risks attributed to exposure to groundwater contamination were not, only the latter risks were addressed in the 2002 ROD. Twenty-three of the 62 chemicals detected in groundwater (source area and non-source area) were selected for evaluation in the HHRA as chemicals of potential concern (COPCs). The COPCs were selected to represent potential site-related hazards based on toxicity, concentration, frequency of detection, and mobility and persistence in the environment and can be found on page 6-42 of the RI Report. From the selection of groundwater COPCs, a subset of the chemicals was identified in the FS as presenting a significant current or future risk. This subset were referred to as the chemicals of concern (COCs) in the 2002 ROD. The groundwater COCs are summarized in Table 10 (Table 6 in the 2002 ROD), which includes the detection frequency, range of detections, and exposure point concentrations (maximum detected concentrations) used to evaluate the reasonable maximum exposure (RME) scenario in the baseline risk assessment for the COCs. Estimates of average or central tendency exposure concentrations for the COCs and COPCs can be found in Section 6 of the RI.

Exposure Assessment

Potential human health effects associated with exposure to the COPCs were estimated quantitatively or qualitatively through several hypothetical exposure pathways that were developed to reflect the potential

for exposure to hazardous substances based on the present uses, potential future uses, and location of the Site. Because groundwater near the Source Area was used as a drinking water source at the time leading up to the signing of the 2002 ROD, the exposure point was any point within the groundwater plume. Although the public water supply system installed by EPA/MEDEP in 1993-94, and the continued monitoring of existing private wells helps to ensure that people are not exposed to unsafe levels of groundwater contaminants, the possibility exists that people will be exposed to unsafe levels of groundwater contaminants at some future time. Consequently, people who rely on groundwater for their water supply source, or who may do so in the future, were considered the exposed population.

Exposure to contaminated groundwater was assumed to occur via direct ingestion, through dermal contact, and inhalation (such as while bathing or showering). Residents were assumed to ingest two liters of water per day, 350 days per year, for a 30-year exposure duration (EPA, 1991). Inhalation exposures from the use of a water supply for bathing were evaluated for volatile organic compounds assuming the risks were comparable to direct ingestion (EPA, 1991). A qualitative evaluation of the potential risks from exposure to VOCs migrating from groundwater to indoor air through the soil was also included. Exposure via dermal contact (e.g., while bathing) was assumed to occur 350 days per year, for a 30-year exposure duration and the entire adult body surface area (18,000 cm^2) was assumed to contact the water about 35 minutes per day (EPA, 1991, 1992). General indoor air exposures from vapor intrusion was qualitatively evaluated using readily available criteria established by the Commonwealth of Massachusetts (MCP GW-2 standards) for this purpose based on the Johnson and Ettinger model. Each exposure was assumed to be to the maximum detected concentration of each COC detected.

A more thorough description of exposure pathways evaluated in the HHRA, including estimates for an average exposure scenario, can be found Section 6 of RI (Woodard & Curran, July 2001).

Risk Characterization

Excess lifetime cancer risks were determined for each exposure pathway by multiplying a daily intake level with the chemical specific cancer potency factor. Cancer potency factors have been developed by EPA from epidemiological or animal studies to reflect a conservative "upper bound" of the risk posed by potentially carcinogenic compounds. That is, the true risk is unlikely to be greater than the risk predicted. The resulting risk estimates are expressed in scientific notation as a probability (e.g., 1×10^{-6} for 1/1,000,000) and indicate that an average individual is not likely to have greater that a one in a million chance of developing cancer over 70 years as a result of site-related exposure (as defined) to the compound at the stated concentration. All risks estimated represent an "excess lifetime cancer risk" - or the additional cancer risk on top of that which we all face from other causes such as cigarette smoke or exposure to ultraviolet radiation from the sun. The chance of an individual developing cancer from all other (non-site related) causes has been estimated to be as high as one in three. EPA's generally acceptable risk range for site related exposure is 10^{-4} to 10^{-6}. (MEDEP has an acceptable risk of less than 10^{-5}). Current EPA practice considers carcinogenic risks to be additive when assessing exposure to a mixture of hazardous substances. Table 11 (previously Table 7) presents a summary of the cancer toxicity data relevant to the groundwater COCs.

In assessing the potential for adverse effects other than cancer, a hazard quotient (HQ) is calculated by dividing the daily intake level by the reference dose (RfD or reference dose) or other suitable benchmark. Reference doses have been developed by EPA and they represent a level to which an individual may be exposed that is not expected to result in any deleterious effect. RfDs are derived from epidemiological or animal studies and incorporate uncertainty factors to help ensure that adverse health effects will not occur.

A HQ $\leq$ 1 indicates that a receptor's dose of a single contaminant is less than the RfD, and that toxic noncarcinogenic effects from that chemical are unlikely. The Hazard Index (HI) is generated by adding the HQs for all chemical(s) of concern that affect the same target organ (e.g. liver) within or across those media to which the same individual may reasonably be exposed. A HI $\leq$ 1 indicates that toxic noncarcinogenic effects are unlikely. Table 12 (previously Table 8) presents a summary of the noncarcinogenic toxicity data relevant to the groundwater COCs.

Table 13 (previously Table 9) presents the carcinogenic and non-carcinogenic risk summaries for the COCs in groundwater from monitoring wells that were evaluated to reflect present and potential future exposure from ingestion, inhalation, and dermal contact to residents corresponding to the reasonable maximum exposure (RME) scenario. The qualitative evaluation of the risks associated with contaminants potentially migrating from groundwater to indoor air suggested the potential for unacceptable risks were a structure to be constructed atop the Source Area. Projections made at the time of the HHRA was performed did not suggest significant indoor air exposure for existing occupied residential structures given the groundwater concentrations measured during the RI. However, as noted earlier, since the risk assessment was completed and the 2002 ROD was signed, EPA has developed guidance that addresses potential indoor vapor intrusion in a more quantitative manner. Because it is uncertain whether or not an unacceptable risk exists, consistent with this guidance, additional investigations are necessary to determine whether volatile organic compounds from contaminated groundwater could affect indoor air in homes or buildings located above the contamination throughout the Site, and if so, whether or not this presents an unacceptable risk to human health.

No other unacceptable risks beyond exposure to contaminated groundwater were identified. Any risks associated with the soil at the Site were addressed by the removal and off-site disposal of soil in 1991 and 2001. Risks posed by potential exposure to other media (sediments and surface water) were deemed acceptable in the HHRA and thus are not summarized in this ROD. Readers are referred to Section 6 of the RI Report for a more comprehensive risk summary.

Uncertainty

Important sources of uncertainty in the hazard identification and exposure assessment of the HHRA included:

- Likelihood of exposure pathways;
- Locations of samples and adequacy of data;
- Selection of COCs;
- Exposure assumptions (e.g., frequency, duration, and intensity); and
- Assumptions regarding physiological factors (e.g., dermal absorption rates, inhalation rates)

Important sources of uncertainty in the toxicity assessment included:

- Carcinogenic toxicity expressed in cancer slope factors, which reflect uncertainties in the extrapolation from high to low doses and extrapolating from animals to humans;
- Noncarcinogenic toxicity as expressed in reference doses, which reflect uncertainties in extrapolating to sensitive human populations, from animals to humans, and from shorter-term to longer-term studies;
- Use of linearized, multistage model to derive cancer slope factors;
- Summation of effects (cancer risks and hazard indices) from multiple substances; and

- Use of uncertainty factors in the derivation of reference doses.

Conservative assumptions were made throughout the risk assessment to ensure that human health is sufficiently protected. Therefore, when all of the assumptions are combined, it is much more likely that risks are overestimated rather than underestimated. A complete discussion of the evaluation of uncertainty for the Site is available in Section 6 of the RI.

Summary of Human Health Risks

The data collected during the technical impracticability evaluation was consistent with the data that was collected during the RI/FS. Tables 10-13 (previously Tables 6-9), have been updated to reflect the maximum contaminant concentrations from the more recent data collected during the technical impractibility evaluation. These tables also reference the most recent toxicity values for the COCs.

As in the 2002 ROD, the human health risks associated with potential exposure to contamination present in both source area and non-source area groundwater exceed EPA's acceptable cancer risk range and are above a Hazard Index of 1 for site-related exposure. Risks also exceed the MEDEP upperbound limits of acceptable risk. These risks are based on a potential future residential groundwater exposure scenario for both source area and non-source area groundwater. The COCs contributing the most to the risk for groundwater exposure include PCE, TCE and PCBs. Additional COCs that exceeded EPA target risk levels and/or MCLs/ MEGs are 1,1-DCE, arsenic, manganese, 1,1,1-TCA, cis-1,2-DCE, 1,2,4,-trichlorobenzene, and dieldrin. Based on this assessment, both source area and non-source area groundwater are currently not suitable as domestic water supply source.

Finally, additional investigations are needed to determine if vapor intrusion presents a risk to human health.

2. Ecological Risk Assessment

An Ecological Risk Assessment was completed for the Site to evaluate the likelihood and magnitude of potential ecological effects associated with the discharge of source area groundwater to the Site Pond and other nearby surface water bodies. This assessment also included an evaluation of the ecological effects from exposure to contaminated soil within the Source Area of the Site. However, this evaluation was not included in the 2002 ROD because soil that was found to present a potential ecological risk was located in an area that was subsequently excavated and disposed of off-site after the completion of the risk assessment. The excavation and off-site disposal were done to allow access to the bedrock fractures during the 2001 pilot study. Consequently, soils that remain at the Site no longer present an ecological risk. Further information regarding the ERA for soils and the chemical oxidation pilot study can be found in Section 7 of the RI (Woodard & Curran, July 2001) and Section 1 of the FS (Woodard & Curran, July 2002).

Identification of Chemicals of Potential Concern (COPCs)

For the ecological screening, maximum concentrations of contaminants detected in surface water and sediments during the RI were compared to established numerical benchmarks to identify contaminants that exceeded these benchmarks and warranted further evaluation. Eleven contaminants for surface water and fourteen contaminants for sediments were compared to established benchmarks for each media. Based on this comparison, three contaminants for surface water and eleven contaminants for sediments all exceeded

a benchmark standard. Contaminants that exceeded benchmarks in both surface water and sediments include lead, mercury, and zinc. In addition, PCE, TCE, 1-1-DCA, *cis*-DCE, 2-hexanone, acetone, arsenic, and copper all exceeded applicable benchmarks for sediment. Contaminants with maximum concentrations that fell below relevant benchmark concentrations were assumed not to present a significant ecological risk and were not evaluated further.

The range of detected contaminant concentrations in surface waters and sediments, the frequency of detection, and benchmark standards for surface water and sediments are indicated in Table 14 and Table 15.

Exposure Assessment

As stated above, three contaminants in surface water and eleven contaminants in sediments were retained for further evaluation in the ecological risk assessment performed for the 2002 ROD. While twelve discrete surface water bodies were sampled as part of the RI, the "Site Pond", "Road Pond", and "Farm Pond" were the primary focus of the risk assessment as these ponds represented the most likely surface water bodies affected by the migration and discharge of contaminants within the Source Area. In order to understand potential exposure pathways and receptors associated with these three surface water bodies, the habitat of each was evaluated to determine the type and extent of habitat that exist, record any evidence of wildlife species, and identify any sensitive species and critical habitats where the potential exposure to chemicals may be of concern. No aquatic species were observed in either the Site or Road ponds during the habitat assessment. In addition, no rare, threatened, or endangered species have been observed or recorded in the area.

The maximum concentrations of dissolved lead, mercury, and zinc all exceeded their respective benchmarks for surface water in samples collected from surface water bodies in the vicinity of the Site but not considered to be affected by the groundwater plume. The maximum concentrations of dissolved mercury and zinc were below their benchmarks in the Site Pond, Road Pond, and Farm Pond. Lead was the only dissolved metal that exceeded a benchmark within the plume area, and that was only exceeded in the Site Pond at a concentration of 1.1 ppb; a value that slightly exceeded the Maine Surface Water Protection Criteria of 0.41 ppb. However, because lead was detected at similar concentrations when compared to background locations, concentrations of lead in the Site Pond were determined to be unrelated to the Site. With the understanding that the three ponds closest to the Source Area would be the most likely to be affected by the mobilization and discharge of site-related contaminants, and the fact that contaminant concentrations in these three ponds were below benchmark values, or in the case of lead, below background, surface water was not identified as an exposure medium of concern.

Similar to surface water, sediments within the Site Pond, Road Pond, and Farm Pond were determined during the RI/FS to be the most likely areas affected by discharge of source area contaminants. Benthic macroinvertebrates, which spend all or nearly all of their lifespan in or near the sediment, were identified as the primary receptors and assessment endpoints because they are immobile, abundant, in direct contact with, and ingesting sediment within these three ponds (Table 16).

Ecological Exposure Pathways of Concern
Table 16

Exposure Medium	Sensitive Environment Flag Y or N	Receptor	Endangered/ Threatened Species Flag Y or N	Exposure Routes	Assessment Endpoints	Measurement Endpoints
Sediment	Y	Benthic organisms	N	Ingestion, respiration, and direct contact with chemicals in sediment	Benthic invertebrate community species diversity and abundance	Toxicity of soil to *Hyallela azteca* Species diversity index

Ecological Effects Assessment and Risk Characterization

Risks to benthic invertebrates were evaluated qualitatively by comparing the maximum observed sediment concentrations in the Site Pond, Road Pond, and Farm Pond to a chemical-specific, toxicity-reference value (TRV). The results of this comparison (maximum concentration/ TRV) are expressed as a Hazard Quotient (HQ) for each compound and are summarized in Table 17. Because the risks posed by some of the COPCs may be due to factors unrelated to the Site, the ecological risk assessment included an evaluation of potential risk presented by contaminants common to all three ponds to help ensure that the risk characterization was focused on true potential risk drivers. Based on this evaluation, acetone was determined to be unrelated to the Site because it was not found in either source area soils or groundwater; is not a persistent contaminant in the environment and is a common sampling and laboratory contaminant. Similarly, inorganic metals were later determined to be unrelated to the Site because a comparison of HQs from these three ponds to background locations unaffected by the Site showed similar values. Collectively, these observations led to the conclusion that any ecological risk would be primarily related to VOC concentrations, which have a clear source at the Site, and which are not naturally present in aquatic systems.

The three ponds evaluated in the ecological risk assessment had detectible VOC concentrations in sediments. The Site Pond and Road Pond had concentrations that resulted in individual HQs greater than unity (>1), which suggests that exposure to sediments in these ponds can cause an ecological effect. However, the risks from exposure to sediments in the Site Pond were not an issue because the HQs associated with each contaminant were not significantly above unity despite the conservative assumptions used throughout the risk assessment. Similarly, while the concentrations of 1,1-DCA and cis-1,2-DCE suggest minor ecological effects from exposure to sediments in the Road Pond, these effects are expected to be limited because of the small size and the exposure potential of media.

Uncertainty

The major sources of uncertainty related to ecological risk assessment are:

- Representativeness of sampling locations;
- Representativeness of sampling techniques;
- Selection of benchmark values;
- Selection of exposure point concentrations;
- Selection of benthic macroinvertebrates as key ecological receptors;
- Effects of complex mixtures of contaminants in sediments; and
- Risk estimates based on a single line of evidence

Conservative assumptions were made throughout the risk assessment to ensure that the ecological receptors are sufficiently protected. Therefore, when all of the assumptions are combined, it is much more likely that risks are overestimated rather than underestimated. A complete discussion of the evaluation of uncertainty for the Site is available in Section 7 of the RI.

For more discussion about the human health and ecological risk assessments, see Section G of the 2002 ROD.

Basis for Response Action

Because the baseline HHRA revealed that, if in the future, residents were to use either the source area or non-source area groundwater as a long-term water supply, it would present an unacceptable human health risk. (e.g., groundwater concentrations exceed EPA and MEDEP drinking water standards). Actual or threatened releases of hazardous substances from the Site, if not addressed by implementing the response action selected in the 2002 ROD and this ROD, may present an imminent and substantial endangerment to public health, welfare, or the environment. Additionally, while the risk to benthic organisms is expected to be minimal, the continued discharge of contaminated groundwater to the Site and Road Ponds could result in additional risks at some point in the future. Finally, because of the risk from vapor intrusion pathway is unknown, further investigations of this pathway will be performed.

H. REMEDIATION OBJECTIVES

Four response action objectives (RAOs) were developed for the 2001 Feasibility Study to guide the development of cleanup alternatives. These RAOs were based on preliminary information relating to types of contaminants, environmental media of concern, and potential exposure pathways. These RAOs were developed to mitigate, restore and/or prevent existing and future potential threats to human health and the environment. The RAOs for the 2002 ROD were:

- Prevent the use of groundwater containing contaminants that exceed federal or state MCLs, MCLGs, MEGs, or, an excess cancer risk of 1 x 10-6 or a hazard quotient of 1;

- Contain source area groundwater within the 2-acre fenced area of the Site and manage the migration of contaminants throughout the groundwater plume;

- Restore groundwater outside of the 2-acre fenced area of the Site (i.e., non-source area groundwater) to meet federal or state MCLs, MCLGs, MEGs, or an excess cancer risk of 1 x 10-6 or a hazard quotient of 1; and

- Perform long-term monitoring of surface water, sediments, and groundwater to verify that the cleanup actions at the Site are protective of human health and the environment.

The remedy selected in the 2002 ROD addressed three of these objectives through the implementation of institutional controls; installation of a groundwater containment system to prevent further migration of highly contaminated groundwater from the Source Area to the non-source area; regular monitoring and provisions for water supply connections to the Plymouth Water District. What remained was whether the objective that required non-source area groundwater to be restored to drinking water quality within a reasonable timeframe through monitored natural attenuation could be met.

Two additional RAOs were developed for this ROD:

- Determine whether or not it is technically practicable to restore source area groundwater to meet federal or state MCLs, MCLGs, MEGs, or an excess cancer risk of 1 x 10-6 or a hazard quotient of 1; and

- Prevent exposure to vapor intrusion coming from the groundwater that presents an unacceptable risk to human health (this RAO is consistent with the RAO identified above that requires the cleanup to prevent the use of groundwater causing unacceptable risks, including the potential indoor air inhalation exposures to volatile compounds coming from the groundwater).

I. DEVELOPMENT AND SCREENING OF ALTERNATIVES

1. Statutory Requirements/ Response Objectives

Under its legal authorities, EPA's primary responsibility at Superfund sites is to undertake remedial actions that are protective of human health and the environment. In addition, Section 121 of CERCLA establishes several other statutory requirements and preferences, including: a requirement that EPA's remedial action, when complete, must comply with all Federal and more stringent State environmental and facility siting standards, requirements, criteria or limitations, unless a waiver is invoked; a requirement that EPA select a remedial action that is cost-effective and that utilizes permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable; and a preference for remedies in which treatment which permanently and significantly reduces the volume, toxicity or mobility of the hazardous substances is a principal element over remedies not involving such treatment. Response alternatives were developed to be consistent with these Congressional mandates.

2. Technology and Alternative Development and Screening

CERCLA and the NCP set forth the process by which remedial actions are evaluated and selected. In accordance with these requirements, a range of alternatives was developed for source area groundwater. This range included alternatives that involve little or no treatment but provide protection through engineering or institutional controls and a no action alternative. As discussed in Section 5 of the FS and Section 5 of the TI Evaluation Report, groundwater treatment technologies were identified, assessed, and screened based on implementability, effectiveness, and cost. Section 5 of the TI report presented the remedial alternatives developed by combining the technologies identified in the previous screening process in the categories identified in 300.430(e)(3). The purpose of the initial screening was to narrow the number of potential remedial actions for further detailed analysis while preserving a range of options.

J. DESCRIPTION OF ALTERNATIVES

This Section provides a narrative summary of each remediation alternative evaluated for source area groundwater. These remediation alternatives were developed with the understanding that the components in the 2002 ROD would be implemented, and thus, this understanding underlies the alternatives evaluated in this ROD. To summarize what has been presented previously, the 2002 ROD included the following major components: installation and operation of a groundwater extraction and treatment system to contain source area groundwater; monitoring of surface water, sediments, and non-source area groundwater to measure the progress toward meeting cleanup goals; residential well monitoring and provision of drinking water if necessary; institutional controls to prevent use of both source area and non-source groundwater; and five-year reviews. At the time of the 2002 ROD, there was uncertainty as to whether source area groundwater could be successfully restored to drinking water quality; hence, the focus of the 2002 ROD was on the non-source area groundwater. With the conclusion of the technical impracticability evaluation, EPA is now able to finalize a comprehensive, site-wide, groundwater remedy.

Before cleanup alternatives for this ROD were developed, various technologies were researched. The 2006 Technical Impracticability Report identified and evaluated various treatment technologies that were considered for the source area groundwater. These treatment technologies included in-situ approaches: chemical flushing; chemical oxidation; steam injection; electrical resistance; and conductive heating. Ex-situ treatment approaches included the following: uv/oxidation; carbon adsorption; thermal oxidation; and air stripping.

These technologies were screened against three criteria: effectiveness; implementability; and relative costs, according to requirements under the Superfund law. Technologies that meet the three screening criteria are then typically combined into more comprehensive "cleanup alternatives" that may include long-term monitoring and institutional controls, and screened again as to effectiveness, implementability, and cost. The alternatives remaining after this screening is completed are then evaluated more closely against nine criteria that are described below.

None of the technologies met all three screening criteria. Some technologies were not sufficiently effective. Other newer technologies have not yet been implemented in bedrock settings and therefore their implementability and effectiveness are uncertain. Finally, there were technologies with high costs and uncertain effectiveness that were also screened out. As a result, none of the active technologies was carried forward to the final evaluation step.

In addition to this screening process, in 2001, a pilot study of an emerging technology was conducted on the George West property. This study involved the injection of potassium permanganate into the bedrock as a chemical oxidant that would break down the VOCs in-situ. Upon completion of this study, it was concluded that this technology did not have the capability to restore the source area groundwater to drinking water quality within a reasonable timeframe.

As a result of the screening process and this pilot study, the only remaining alternatives for analysis for source area groundwater are the limited action alternative (technical impracticability waiver/vapor intrusion/MNA determination) and a no action alternative. These alternatives are summarized below.

Alternative 1 (GW-1): ***No Action***

This alternative would not include any additional work. There would be no cleanup actions for source area groundwater or possible vapor intrusion. EPA would leave the Source Area as it is, and no efforts would be taken to address the contamination within the Source Area.

No long-term monitoring would be performed as part of this alternative. Five-year reviews would be performed as they are mandated by the Superfund law and would be performed to assess the Site conditions and determine if the approach is protective of public health and the environment. It is anticipated that the five-year reviews under this alternative would be performed simultaneously with the five-year reviews for the 2002 ROD.

Capital Costs: None
Present Worth of Long Term Monitoring: None; no monitoring is included with this alternative

Alternative 2 (GW-2): ***Limited Action/Technical Impracticability Waiver/Final Determination MNA/Vapor Intrusion***

This alternative would involve invoking a technical impracticability waiver for source area groundwater. There would be no further cleanup actions for source area groundwater. EPA would leave the source area groundwater as it is, and no efforts would be taken to reduce the contamination under this alternative. Institutional controls will be put in place to prevent exposure to contaminated groundwater and potentially to prevent vapor intrusion exposure.[1] In addition, groundwater containment and long term monitoring would be required to ensure that source area groundwater does not migrate from the Source Area.[2]

Second, this alternative also includes the determination, based on updated groundwater modeling, that drinking water standards will be met in non-source area groundwater and that monitored natural attenuation is the appropriate method to achieve these levels.

Third, this alternative includes an investigation of the potential vapor intrusion pathway and requires appropriate actions to be taken, if needed, to address this potential pathway.

Review of the technical impracticability waiver would be performed as part of mandatory five-year reviews. These reviews are mandated by the Superfund law and would be performed to assess the site conditions and to determine if the approach is protective of public health and the environment. It is anticipated that the five-year reviews for this alternative would be performed simultaneously with the five-year reviews for the 2002 ROD.

Capital Costs: None, included in 2002 ROD. Because it is uncertain whether measures would be needed to address vapor intrusion, no capital costs have been included in this estimate. It is

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1 Site-wide institutional controls were included as part of the September 2002 ROD. Because these controls also address portions of the groundwater remedy included in this ROD, they are included again for evaluation purposes.

2 Containment of source area groundwater and site-wide monitoring were included as part of the September 2002 ROD. Because these actions also address portions of the groundwater remedy included in this ROD, they are included again for evaluation purposes.

estimated that the vapor intrusion characterization costs would be between $100,000 and $200,000. Present Worth of Long Term Monitoring: None, costs included in 2002 ROD. Because it is uncertain whether measures would be needed to address vapor intrusion, no long term monitoring costs have been included in this estimate.

Section 121(b)(1) of CERCLA presents several factors that at a minimum EPA is required to consider in its assessment of alternatives. Building upon these specific statutory mandates, the NCP articulates nine evaluation criteria to be used in assessing the individual remedial alternatives.

A detailed analysis was performed on the alternatives using the nine evaluation criteria in order to select a remedy for the Site. The following is a summary of the comparison of each alternative's strength and weakness with respect to the nine evaluation criteria. These criteria are summarized as follows:

Threshold Criteria

The two threshold criteria described below must be met in order for the alternatives to be eligible for selection in accordance with the NCP:

1. **Overall protection of human health and the environment** addresses whether or not an alternative provides adequate protection and describes how risks posed through each pathway are eliminated, reduced or controlled through treatment, engineering controls, or institutional controls.

2. **Compliance with applicable or relevant and appropriate requirements (ARARs)** addresses whether or not an alternative will meet all Federal environmental and more stringent State environmental and facility siting standards, requirements, criteria or limitations, unless a waiver is invoked.

Primary Balancing Criteria

The following five criteria are utilized to compare and evaluate the elements of one alternative to another that meet the threshold criteria:

3. **Long-term effectiveness and permanence** addresses the criteria that are utilized to assess alternatives for the long-term effectiveness and permanence they afford, along with the degree of certainty that they will prove successful.

4. **Reduction of toxicity, mobility, or volume through treatment** addresses the degree to which alternatives employ recycling or treatment that reduces toxicity, mobility, or volume, including how treatment is used to address the principal threats posed by the Site.

5. **Short-term effectiveness addresses** the period of time needed to achieve protection and any adverse impacts on human health and the environment that may be posed during the construction and implementation period, until cleanup goals are achieved.

6. **Implementability** addresses the technical and administrative feasibility of a remedy, including the availability of materials and services needed to implement a particular option.

7. **Cost** includes estimated capital and O&M costs, as well as present-worth costs.

Modifying Criteria

The modifying criteria are used as the final evaluation of remedial alternatives, generally after EPA has received public comment on the RI/FS and Proposed Plan (or in this case, on the TI report and Proposed Plan):

8. **State acceptance** addresses the State's position and key concerns related to the selected alternative and other alternatives, and the State's comments on ARARs or the proposed use of waivers.

9. **Community acceptance** addresses the public's general response to the alternatives described in the Proposed Plan and TI report.

Following the detailed analysis of each individual alternative, a comparative analysis, focusing on the relative performance of each alternative against the nine criteria, was conducted.

The sections below present the nine criteria and a brief narrative summary of the alternatives and the strengths and weaknesses according to the detailed and comparative analysis.

K. SUMMARY OF THE COMPARATIVE ANALYSIS OF ALTERNATIVES

1. Overall protection of human health and the environment

Alternative GW-1, no action, provides no protection for human health and the environment. Risks from exposure to contaminated groundwater would remain as well as risks potentially from unsafe air due to vapor intrusion. Chemical concentrations in groundwater would remain in excess of MCLs and MEGs, and high levels of contamination within source area groundwater would act as a continuing source of contamination to groundwater throughout the Site until it is degraded to acceptable levels over hundreds of years. Under this alternative, there would be no restrictions on groundwater use and therefore nothing is in place to prevent the use of contaminated groundwater in the future. Alternative GW-2 is protective of human health and the environment as exposure to contaminated groundwater is prevented through the use of institutional controls. In addition, groundwater in the non-source area will reach safe levels through monitored natural attenuation. Further, Alternative GW-2 is protective of human health by investigating, and taking appropriate remedial action if necessary, to address the vapor intrusion pathway.

2. Compliance with Applicable or Relevant and Appropriate Requirements (ARARs)

Section 121 (d) of CERCLA requires that remedial actions at CERCLA sites at least attain legally applicable or relevant and appropriate Federal and State requirements, standards, criteria and limitations that are collectively referred to as ARARs, unless such ARARs are waived under CERCLA 121 (d)(4).

Applicable requirements are those substantive environmental protection requirements, criteria, or limitations promulgated under Federal or State law that specifically address hazardous substances, the remedial action to be implemented at the site, the location of the site or other circumstances present at the site. Relevant and appropriate requirements are those substantive environmental protection requirements,

criteria, or limitations promulgated under Federal or State law that, while not applicable to the hazardous materials found at the site, the remedial action itself, the site location or other circumstances at the site, nevertheless address problems or situations sufficiently similar to those encountered at the site that their use is well-suited to the site.

Currently, several VOCs, arsenic, manganese, dieldren, and PCBs (Arochlor 1260) exceed chemical-specific ARARs (i.e., MCLs/MEGs) in groundwater. Alternative GW-1 does not meet these drinking water ARARs nor does it provide a waiver of these requirements. Alternative GW-2 waives state and federal drinking water standards for selected contaminants within the designated TI zone consistent with this criterion. In addition, Alternative GW-2 includes a determination that chemical-specific ARARs in non-source area groundwater can be met in a reasonable period of time and, as a result, these requirements must be met in this area of the site. There are no location-specific or action-specific ARARs applicable to either Alternative GW-1 or GW-2 because no additional response actions would be conducted. Alternative GW-2 would be consistent with EPA's vapor pathway guidance, a To Be Considered requirement. Tables of Federal and State ARARS and TBCs site-wide are included in Appendix B of this ROD.

3. Long-term effectiveness and permanence

Alternative GW-1 does not provide long-term effectiveness because no actions would be taken to reduce the concentrations of contaminants in the source area groundwater. As a result, the residual risk is high. Alternative GW-2 addresses the residual risk by implementing institutional controls to prevent the use of contaminated groundwater. These controls are effective in the long term as long as they are effectively monitored and enforced. Alternative GW-2, through the implementation of engineering controls and/or institutional controls, if necessary to address the vapor intrusion pathway, will provide long-term effectiveness as long as these measures are effectively monitored and maintained.

4. Reduction of toxicity, mobility or volume through treatment

Neither of the alternatives reduces toxicity, mobility, or volume of the contamination through treatment except as provided in the 2002 ROD. There would be a reduction in the mobility and volume of the contamination through the containment system that was selected in the 2002 ROD as that will prevent contamination from leaving the Source Area. Alternative GW-2 does not utilize treatment to reduce toxicity, mobility or volume as it relates to vapor intrusion. However, engineering controls (vapor barriers) could reduce the mobility of contaminants.

5. Short-term effectiveness

Because no major construction is required under either alternative to address groundwater, there are no unacceptable short-term impacts to workers, residents or the environment. Any engineering controls, if necessary to address vapor intrusion, would be implemented following appropriate procedures and would not result in any short-term impacts to workers, residents or the environment.

6. Implementability

Alternatives GW-1 and GW-2 are readily implementable because no additional steps are required beyond what is being done under the 2002 ROD. The engineering controls that would be implemented for addressing any vapor intrusion are readily available. Institutional controls are easily implemented if necessary to address vapor intrusion.

7. Cost

Alternatives GW-1 requires no capital costs. Under Alternative GW-1, all five-year review costs are included in the cost for the 2002 ROD. Under Alternative GW-2, all five-year review, monitoring, and institutional controls costs are included in the cost for the 2002 ROD. There are no administrative costs associated with a TI waiver. Capital costs for engineering controls and/or institutional controls, if necessary, to address the vapor intrusion pathway, are anticipated to be minimal relative to the overall site costs.

8. State Input

Because EPA is waiving chemical-specific ARARs for the source area groundwater, EPA specifically sought comment from Maine DEP regarding this waiver. Maine DEP concurred with the waiver of chemical-specific ARARs for the source area groundwater. Further, the State expressed its support for Alternative GW-2 at the public hearing held on June 28, 2006, with the understanding that the containment system selected as part of the 2002 ROD will be constructed and operated as long as necessary to prevent further impact to the non-source area groundwater. A copy of the concurrence letter is included as Appendix C of this ROD.

9. Community input

Because EPA is waiving chemical-specific ARARs for source area groundwater, EPA specifically sought comment from the community regarding this waiver. In addition, EPA evaluated comments received from the community regarding the Proposed Plan in its evaluation of these criteria. Overall, the community expressed its support for Alternative GW-2 during the public comment period while expressing some concerns about the operation of the containment system. The public comments and EPA's responses are included in the Responsiveness Summary, Part Three of this ROD.

L. THE SELECTED REMEDY

The NCP established an expectation that EPA will use treatment to address the principal threats posed by a site wherever practicable. The principal threat concept is applied to source materials at a Superfund site. A source material is material that includes or contains hazardous substances, pollutants or contaminants that act as a reservoir for migration of contamination to groundwater, surface water or air, or acts as a source of direct exposure. Contaminated groundwater generally is not considered to be a source material; however, non-aqueous phase liquids (NAPLs, either denser than water or lighter than water) in groundwater may be viewed as source material.

Principal threat wastes are those source materials that are highly toxic or highly mobile and generally cannot be contained in a reliable manner or would present a significant risk to human health or the environment should exposure occur. The manner in which principal threats are addressed generally will determine whether the statutory preference for treatment as a principal element is satisfied. Wastes generally considered to be principal threats are liquid, mobile and/or highly-toxic source material.

Low-level threat wastes are those source materials that generally can be reliably contained and that would present only a low risk in the event of exposure. Wastes that are generally considered to be low-level

threat wastes include non-mobile contaminated source material of low to moderate toxicity, surface soil containing chemicals of concern that are relatively immobile in air or ground water, low leachability contaminants or low toxicity source material.

Because there is a good probability that DNAPL is present within the bedrock in the Source Area, the groundwater beneath the George West property is classified as a principal threat waste. The contaminants in the DNAPL are toxic and highly mobile. While the DNAPL can be contained in a reliable manner, it does present a significant risk to human health should exposure occur. Table 18 summarizes the principal and low-level threat wastes.

Table 18: Principal and Low-Level Threat Summary

Principal Threats					
Source/Source Media	**Affected Media**	**Contaminants**	**Maximum Concentration (from validated data used in HHRA)**	**Reason(s)**	**Receptors**
DNAPL	Groundwater	VOCs	Bedrock Groundwater (in ug/L): 1,1-DCE (57) cis-1,2-Dichloroethene (630) 1,1,1-TCA (1000) Tetrachloroethene (32,000) Trichloroethene (7,250) 1,2,4-trichlorobenzene (150) Aroclor 1260 (119) Dieldrin (0.24) Arsenic (42.5) Manganese (8540)	Mobility Toxicity	Residents
Low-Level Threats					
Source/Source Media	**Affected Media**	**Contaminants**	**Maximum Concentration (from validated data used in HHRA)**	**Reason(s)**	**Receptors**
Groundwater	Indoor Air Potential, not confirmed	VOCs	To be measured in an investigation following this ROD	Mobility Toxicity	Residents

1. Summary of the Rationale for the Selected Remedy

The selected remedy is the final component of a comprehensive remedy that addresses the principal threat posed by the Hows Corner Site. It supplements the remedy selected in the 2002 ROD that utilizes groundwater extraction with on-site treatment to contain source area groundwater, institutional controls, and long-term monitoring of groundwater, surface water, and sediments. The selected remedy is the proposed preferred alternative that was identified in the May 2006 Proposed Plan and that was presented in more detail in the TI report.

The major components of the selected remedy include:

- Determination that drinking water quality standards are required to be met in non-source area groundwater in a reasonable timeframe;

- Technical Impracticability Waiver for a small portion of the Site situated along Sawyer Road where it has been determined that the drinking water quality standards cannot be attained within a reasonable timeframe;

- Investigation of the potential vapor intrusion pathway, and, if necessary, taking appropriate remedial actions to address unacceptable risks from this pathway;

- Five-year Reviews.

A detailed description of the remedial components of the selected remedy is provided in subsequent sections of this ROD. In addition, this description provides some clarification regarding institutional controls that were selected in the 2002 ROD.

2. Description of Remedial Components

Specific components of Alternative GW-2 include:

- **Determination that ARARs are required to be met in non-source area groundwater.** Groundwater data collected through the RI/FS indicated that the non-source area groundwater plume has reached its maximum spatial extent under the existing conditions. This observation, in conjunction with the hydraulic containment of source area groundwater selected as part of the 2002 ROD remedy, was viewed as creating favorable conditions for natural attenuation processes to reduce the concentrations of contaminants outside of the Source Area. The 2002 ROD noted that attenuation processes such as chemical degradation, dispersion, dilution, sorption, and volatilization appeared to be effectively reducing the VOC concentrations at the edges of the existing groundwater plume. However, at the time of the 2002 ROD, the viability of attaining drinking water standards through monitored natural attenuation was uncertain as computer modeling of the groundwater estimated a range from a low of 35 years to over 1400 years to meet these standards. As a result, the 2002 ROD stated that a more precise estimate would be needed before a determination could be made that chemical-specific ARARs could be achieved in the non-source area groundwater. Data subsequently collected has allowed a more precise estimate to be developed, indicating that in conjunction with the containment system, drinking water standards are expected to be attained in the non-source area groundwater in 40 to 80 years. It is expected that the containment system will need to continue operation for several decades (>100 years) after drinking water standards have been attained in the non-source area groundwater to prevent recontamination by contaminated groundwater migrating from the Source Area. The remedy will track the progress of natural attenuation by comparing data collected as part of the monitoring program established as part of the 2002 ROD to measure the effectiveness of MNA in meeting the cleanup goals established for the non-source area groundwater plume and to determine when the containment system will be shut down.

- **Technical Impracticability Waiver for Source Area Groundwater.** Data from fieldwork performed in 2003 and 2004 provided the basis for EPA concluding that it is technically impracticable to restore groundwater within the Source Area to drinking water standards within a reasonable timeframe. This fieldwork, building on data collected during the RI/FS period, included installation of additional wells in the Source Area, analysis of bedrock cored as part of the well installation, collection of geophysical data, and a constant discharge

pumping test.

This waiver is based on three interrelated and supporting lines of evidence: 1) the likely presence of DNAPL in the bedrock in the Source Area; 2) the results of groundwater computer modeling; and 3) an assessment of technologies that could achieve drinking water standards within a reasonable timeframe.

The likely presence of DNAPL in bedrock and supporting data indicate the following: high concentrations of low solubility solvents appear to be acting as a long time residual source; complex, heterogeneous geology where flow is constrained to discrete fracture networks that are poorly connected; there is low transmissivity of the bedrock; little natural flushing by the regional groundwater system occurs as the Source Area is located in a limited recharge area; and the possibility of diffusion of the DNAPL into the rock matrix that would extend the length of time of the bedrock serving as a contaminant source. In addition, groundwater modeling estimated a timeframe of over 400 years before drinking water standards would be attained through attenuation of the source area plume by natural conditions. Finally, while there exist technologies that could effectuate removal of some contaminant mass, none were identified, either in-situ or ex-situ, that could attain drinking water standards within a reasonable timeframe.

Based on this understanding of existing conditions and the expectation that these conditions have been stabilized for some time, EPA first identified a technical impracticability zone encapsulating the Source Area where PCE concentrations are 10,000 µg/L or greater, and has adjusted that zone to match with existing property boundaries for ease in monitoring the zone for an extended period of time.

- **Vapor Intrusion Pathway Characterization.**
  Based on review of EPA's 2002 draft guidance, a vapor intrusion pathway remains a possibility following the primary screening sequence in the guidance. As a result, the pathway will be investigated. Sample collection areas that may be part of this characterization include vadose zone vapors, indoor air, crawl space, subslab, and ambient outdoor air, and it is anticipated that this investigation will be performed in a phased approach with the initial phase focusing on the vadose zone sampling. Dependent on the results, the second phase would involve indoor air and/or crawl space and subslab sampling. Should an unacceptable risk potential exist, additional measures will be taken to address this risk thereby protecting human health. Should additional measures be required, EPA will provide the public with an opportunity to comment on proposed measures and will document the selected response actions as required.

- **Five-Year Reviews.**
  As required by law, EPA will review the Site at least once every five years after the initiation of remedial action at the Site if any hazardous substances, pollutants or contaminants remain at the Site (until the groundwater cleanup goals are met) to assure that the remedial action continues to protect human health and the environment. The 2002 ROD specifically stated, in addition to the Long-Term Monitoring Plan mentioned above, sediment samples from the Road Pond would be collected to confirm that the contaminant concentrations in sediments do not present an unacceptable risk. This pathway will be reevaluated in the five-year review. Additionally, these reviews will include a reassessment of emerging technologies for their viability in restoring the source area groundwater. The trigger date that EPA uses for the five-year reviews is the beginning of remedial action; for the Hows Corner Site, the trigger date is August 11, 2003, the date the

Town of Plymouth adopted their groundwater ordinance restricting groundwater use in the area of the Site. Consequently, the first five-year review will be performed in 2008.

- **Clarification Regarding Institutional Controls.**
The 2002 ROD required that institutional controls be implemented to prevent exposure to the contaminated groundwater at the Hows Corner Site. The controls that have been put in place since the 2002 ROD include a town ordinance (See Appendix A) and restrictive covenants on the majority of properties within the Site (Table 20 – note that there are properties that are within the ordinance but only partly within the site plume).

The 2002 ROD contemplated that the Institutional Control Zone (ICZ) would change over time as concentrations of contaminants were reduced thru monitored natural attenuation. EPA stated in this ROD:

> Once the ROD has been issued, EPA will work with the community and local government to develop a process to discuss the actual nature, type and number of institutional controls that may be required to be put in place. Regardless of what decisions are made regarding institutional controls on those properties (both developed or undeveloped), institutional controls may be removed once the remedy has been completed, protectiveness has been determined and ARARs are deemed met by EPA. (Section L.2.)

In response to the Proposed Plan issued for the 2006 ROD, a citizen requested that EPA provide procedures to remove institutional controls on properties once cleanup levels have been achieved. As a result, this ROD provides clarification regarding how institutional controls may be removed in the future.

EPA envisions the following three-step approach will be used for determining when the Institutional Control Zone (ICZ) can be adjusted. First, a Long-Term Monitoring Plan will be developed for the Hows Corner Site as one of the components of the 2002 ROD. This plan will set forth the locations, frequency, and analysis for sampling of the groundwater and surface water. Next, when all the wells in a discrete area of the Site have reached cleanup levels, EPA will evaluate whether this area may be removed from the ICZ.

This evaluation will focus on three components: first, sufficient sampling must be conducted so that compliance with cleanup levels can be statistically evaluated to determine whether the area in fact meets these cleanup requirements; and second, a hydrogeological evaluation of all the data including flow paths, gradients, concentrations within the plume, location within the ICZ, etc must be conducted. In addition, a risk assessment will be conducted to confirm that the water within the area evaluated is safe to use. The results of these two components will allow EPA to make a determination whether the ICZ can be adjusted. Finally, when EPA determines that an area may be removed from the ICZ, EPA will recommend to the Town of Plymouth that the ordinance be amended to reflect this determination.

It is reasonable to expect that some areas of the ICZ will attain restoration goals prior to other areas and EPA will evaluate this possibility during the five-year reviews. EPA envisions that these adjustments will be made for relatively large geographical areas of the ICZ and not by individual properties.

3. Summary of the Estimated Remedy Costs

The updated costs for the remedy components selected in the 2002 ROD are provided in Table 19. For this final ROD, there are no additional capital costs or long-term costs associated with the MNA determination, the technical impracticability waiver, or the five-year reviews. As the characterization of the nature and extent of the potential vapor intrusion pathway has not been performed, the remedial costs to address, through possible engineering controls, any unacceptable risks, if any, are unknown. Based on characterizations that are being performed at other sites, the characterization may cost between $100,000 and $200,000.

4. Expected Outcomes of the Selected Remedy

The primary expected outcomes of the selected remedy are that the migration of groundwater contaminants will be managed, non-source area groundwater will meet the cleanup levels and all ARARs specified in this ROD, and be deemed protective at and beyond the point of compliance. Risk to human health from potential exposure to contaminated non-source area groundwater will be addressed in the short term through institutional controls that prevent the use of groundwater during the timeframe required for natural attenuation processes to cause the level of contamination to drop below the proposed cleanup levels. Approximately 40 to 80 years are estimated as the amount of time necessary for non-source area groundwater to achieve the cleanup goals established in this ROD.

A. Groundwater Cleanup Levels

1. With the determination that MNA can restore non-source area groundwater within a reasonable timeframe, cleanup levels have been established for all chemicals of concern identified in the Baseline Risk Assessment found to pose an unacceptable risk to either public health or the environment. These provisional cleanup levels have been set based on the ARARs (e.g., MCLs and more stringent State groundwater remediation standards) as available, or other suitable criteria described below. The process for selecting these cleanup levels and a summary of these preliminary requirements are described in Section L.4.A.1.a. and Section M. 1, below. Periodic assessments of the protection afforded by remedial actions will be made as the remedy is being implemented and at the completion of the remedial action. At the time that these ground water cleanup levels and all ARARs identified in the ROD and newly promulgated ARARs and modified ARARs which call into question the protectiveness of the remedy have been achieved and have not been exceeded for a period of three consecutive years, a risk assessment shall be performed on all residual groundwater contamination to determine whether the remedial action is protective. This risk assessment of the residual ground water contamination shall follow EPA procedures and will assess the cumulative carcinogenic and non-carcinogenic risks posed by all chemicals of concern (including but not limited to the current chemicals of concern) via ingestion, inhalation, and dermal contact with groundwater. If, after review of the risk assessment, the remedial action is not determined to be protective by EPA, the remedial action shall continue until either protective levels are achieved, and are not exceeded for a period of three consecutive years, or until the remedy is otherwise deemed protective or is modified. These protective residual levels shall constitute the final cleanup levels for this ROD and shall be considered performance standards for this remedial action. Again, it is noted that the containment system will need to be operated for an extensive time (several decades > 100 years) beyond the time needed to reach performance standards in the non-source area groundwater) so that the non-source groundwater does not become recontaminated by groundwater migrating from the Source Area.

a. Process for Determining Cleanup Levels

Because the aquifer under the Site is a drinking water source, MCLs established under the Safe Drinking Water Act, and State of Maine Maximum Exposure Guidelines (MEGs) are ARARs for the non-source area groundwater.

Cleanup levels for known, probable, and possible carcinogenic chemicals of concern (Classes A, B, and C) have been established to protect against potential carcinogenic effects and to conform with ARARs. Since MCLGs for Class A and B compounds are set at zero and are thus not suitable for use as cleanup levels, MCLs have been selected as the cleanup levels for these chemicals of concern. MCLGs for the Class C compounds are greater than zero, and can readily be confirmed; thus MCLGs have been selected as the cleanup levels for Class C chemicals of concern.

Cleanup levels for Class D and E chemicals of concern (not classified, and no evidence of carcinogenicity) have been established to protect against potential non-carcinogenic effects and to conform with ARARs. Because the MCLGs for these Classes are greater than zero and can be readily confirmed, MCLGs and proposed MCLGs have been selected as the interim cleanup levels for these classes of chemicals of concern.

Where a promulgated State standard is more stringent than values established under the Safe Drinking Water Act, the State standard was used as the cleanup level. In the absence of an MCLG, an MCL, a proposed MCLG, proposed MCL, a more stringent State standard, or other suitable criteria to be considered (e.g., health advisory, state guideline), a cleanup level was derived for each chemical of concern having carcinogenic potential (Classes A, B, and C compounds) based on a 10^{-6} excess cancer risk level per compound considering the current or future ingestion, inhalation and dermal contact with groundwater. In the absence of the above standards and criteria, cleanup levels for all other chemicals of concern (Classes D and E) were established based on a level that represent an acceptable exposure level to which the human population including sensitive subgroups may be exposed without adverse affect during a lifetime or part of a lifetime, incorporating an adequate margin of safety (hazard quotient = 1) considering the current or future ingestion inhalation and dermal contact with groundwater.

b. Summary of Cleanup Levels

The table below summarizes the provisional cleanup levels for carcinogenic and non-carcinogenic chemicals of concern identified in groundwater. While the maximum concentrations of other groundwater contaminants exceeded MCLs an/or MEGs (e.g., benzene, 1,1,1,2-tetrachloroethane, 1,4-dichlorobenzene, tetrahydrofuran, DEHP, chromium) the frequency of detection for these contaminants did not warrant the identification of specific cleanup levels. However, as described below in Table 21, the selected remedy is expected to meet all ARARs (including MCLs and MEGs).

Groundwater Cleanup Levels Table 21				
Carcinogenic Chemicals of Concern	**Cancer Classification**	**Provisional Cleanup Level (ug/l)**	**Basis**	**RME Risk**
Tetrachloroethene	B	3	MEG	5 E-06
Trichloroethene	B	5	MCL	1 E-06
1,1-Dichloroethene	C	7	MCL	1 E-04
PCBs (Arochlor 1260)	B	0.05	MEG	2 E-05
Dieldren	B	0.02	MEG	7 E-06
Arsenic	A	10	MCL	2 E-04
Sum of Carcinogenic Risk				**3.3 E-4**
Non-Carcinogenic Chemicals of Concern	**Target Endpoint**	**Provisional Cleanup Level (ug/l)**	**Basis**	**RME Hazard Quotient**
Tetrachloroethene	liver	3	MEG	2 E-02
Trichloroethene	liver	5	MCL	5 E-02
1,1-Dichloroethene	liver	7	MCL	5 E-02
Cis-1,2 Dichloroethene	blood	70	MCL	4 E-01
1,1,1,-Trichloroethane	liver	200	MCL	6 E-01
1,2,4,-Trichlorobenzene	adrenal gland	70	MCL	7 E-01
PCBs (Arochlor 1260)	growth	0.05	MEG	1 E+00
Dieldren	liver	0.02	MEG	2 E-02
Arsenic	skin/ vascular system	10	MCL	9 E-01
Manganese	central nervous system	200 (1)	MEG	2 E-01
Sum of Hazard Index (liver)				**0.7 E+00**

Key
MCL: Federal Safe Drinking Water Act Maximum Contaminant Level
MEG: State of Maine Maximum Exposure Guidelines
RME: Reasonable Maximum Exposure

Note: [1] No MCL for Manganese exists; the 1992 Maine Maximum Exposure Guideline (MEG) is used.

All final groundwater cleanup levels identified in the ROD, ARARs, newly promulgated ARARs, and modified ARARs that call into question the protectiveness of the remedy and the protective levels determined as a consequence of the risk assessment of residual contamination must be met at the completion of the remedial action at the points of compliance. EPA expects the containment system selected in the 2002 ROD to significantly reduce contaminant concentrations throughout the non-source area groundwater plume such that the estimated time to reduce concentrations to the levels shown in Table 21 is estimated to be between 40 and 80 years. Based on this estimate, EPA believes the non-source area groundwater will attain chemical-specific ARARs within 40 to 80 years and will continue to meet ARARs as long as the containment system is operating until the source area groundwater no longer poses an unacceptable risk to the non-source area groundwater.

As part of the long-term monitoring component of the 2002 ROD, surface water will be monitored and the results compared to federal and state surface water quality criteria to ensure that the remedy does not adversely affect water quality. Sediments will also be monitored because of the presence of elevated levels of VOCs in sediment. The expected decrease in VOC concentrations in groundwater will result in further reduction in VOC concentrations in surface water and sediments.

B. Updated Assessments

EPA's new Cancer Guidelines and Supplemental Guidance (March 2005) will be used as the basis for EPA's analysis of all new carcinogenicity risk assessments. If updated carcinogenicity risk assessments become available, EPA will determine whether an evaluation should be conducted as part of the remedial design to assess whether adjustments to the target cleanup levels for this remedial action are needed in order for this remedy to remain protective of human health.

M. STATUTORY DETERMINATIONS

The remedial action selected for implementation at the Site is consistent with CERCLA and, to the extent practicable, the NCP. The selected remedy is protective of human health and the environment, will comply with ARARs, with the exception of chemical-specific ARARS that are waived for the source area groundwater, and is cost effective. In addition, when combined with the remedy selected in 2002, the remedial action utilizes permanent solutions and alternate treatment technologies or resource recovery technologies to the maximum extent practicable, and satisfies the statutory preference for treatment that permanently and significantly reduces the mobility, toxicity or volume of hazardous substances as a principal element.

1. The Selected Remedy is Protective of Human Health and the Environment

The combined remedy at this Site will adequately protect human health and the environment by eliminating, reducing, or controlling exposures to human and environmental receptors. Hydraulic

containment of source area groundwater will prevent the further degradation of non-source area groundwater thereby allowing the cleanup of non-source area groundwater through natural attenuation processes (i.e., dilution, adsorption, and volatilization) to safe levels. In addition, hydraulic containment will reduce potential ecological risks by reducing discharges of source area groundwater to nearby surface water bodies. Long-term institutional controls will be put in place to prevent exposure to contamination at the Source Area as required by the 2002 ROD. Long-term environmental monitoring will track the progress of natural attenuation in meeting the clean-up goals for non-source area groundwater while institutional controls will prevent exposure to contaminated groundwater until safe levels are reached and prevent additional pumping of groundwater that would adversely affect the existing groundwater plume. Finally, a further investigation of a potential vapor intrusion pathway will be conducted to determine if an unacceptable risk exists for occupants of residential and commercial/industrial buildings. Should an unacceptable risk potential exist, additional measures will be taken to address this risk thereby protecting human health in the long term.

At the time that ARARs identified in the ROD, newly promulgated ARARs, and modified ARARs that call into question the protectiveness of the remedy have been achieved and have not been exceeded for a period of three consecutive years, a risk assessment shall be performed on the residual groundwater contamination to determine whether the remedy is protective. This risk assessment of the residual groundwater contamination shall follow EPA procedures and will assess the cumulative carcinogenic and non-carcinogenic risks posed by relevant pathways of exposure to groundwater (e.g., ingestion, inhalation, and dermal contact). If, after review of the risk assessment, the remedy is not determined to be protective by EPA, the remedial action shall continue until protective levels are achieved and have not been exceeded for a period of three consecutive years, or until the remedy is otherwise deemed protective. These protective residual levels shall constitute the final cleanup levels for this ROD and shall be considered performance standards for any remedial action.

2. The Selected Remedy Complies With or Waives ARARs

The selected remedy will continue to comply with all Federal and any more stringent State location and action specific ARARs that pertain to the non-source area groundwater. The chemical-specific ARARs will be waived for the source area groundwater as discussed above. EPA will use its vapor intrusion guidance, a "to be considered" (TBC) requirement, in determining the appropriate investigation and possible response to vapor intrusion. A review of the requirements that are applicable or relevant and appropriate to the remedy selected in the 2002 ROD is discussed in detail in Section 2 of the FS Report. Furthermore, tables of Federal and State ARARS and TBCs for the Site are included in Appendix B of this ROD.

3. The Selected Remedy is Cost-Effective

In 2002, EPA determined that the selected remedy was cost-effective because the remedy's costs were proportional to its overall effectiveness (see 40 CFR 300.430(f)(1)(ii)(D)). This determination was made by evaluating the overall effectiveness of those alternatives that satisfied the threshold criteria (i.e., that are protective of human health and the environment and comply with all federal and any more stringent state ARARs, or as appropriate, waive ARARs). Overall effectiveness was evaluated by assessing three of the five balancing criteria: long-term

effectiveness and permanence; reduction in toxicity, mobility, and volume through treatment; and short-term effectiveness, in combination. The overall effectiveness of each alternative then was compared to the alternative's costs to determine cost-effectiveness.

From this evaluation, EPA determined that the selected alternative in the 2002 ROD of hydraulic containment, institutional controls, public water contingency, and long-term monitoring was the most cost effective of the three remedial alternatives evaluated at that time as it was the only alternative that had the potential to meet both threshold criteria and provided the best balance of the five balancing criteria. This alternative provided the greatest long-term effectiveness and permanence and was the only alternative that provided reduction in toxicity, mobility, and volume through treatment. In addition, the remedy selected in 2002 had the potential to significantly reduce future costs associated with the Site as it was the only alternative that could reduce the timeframe for groundwater restoration in the non-source area, and this in turn would reduce the amount of time and associated costs necessary for long-term environmental monitoring.

Now, in 2006, EPA has selected a remedy that includes the determination that ARARs can be met in the non-source area; a waiver of chemical-specific ARARs for the source area groundwater; and a vapor intrusion investigation and possible response actions. None of these components adds significantly to the overall costs of the remedy selected in 2002. While the costs associated with the characterization of the nature and extent of the potential vapor intrusion pathway or possible remedial costs have not been determined, in EPA's judgment, this component of the remedy, based on costs associated with vapor intrusion characterization and responses at other sites in New England, is expected to be relatively low in costs, and as a result, will clearly be proportional to the overall protectiveness of this component given the risks associated with vapor intrusion. As a result, the selected remedy is cost effective.

4. The Selected Remedy Utilizes Permanent Solutions and Alternative Treatment or Resource Recovery Technologies to the Maximum Extent Practicable

The remedy selected in this ROD, including the determination for the non-source groundwater that drinking water standards must be met and determination to waive chemical-specific ARARs for the source area groundwater, provides permanent solutions to the maximum extent practicable. These determinations were made by deciding which identified alternatives provided the best balance of trade-offs among alternatives in terms of: 1) long-term effectiveness and permanence; 2) reduction of toxicity, mobility or volume through treatment; 3) short-term effectiveness; 4) implementability; and 5) cost. The balancing test emphasized long-term effectiveness and permanence and the reduction of toxicity, mobility and volume through treatment; and considered the preference for treatment as a principal element, the bias against off-site land disposal of untreated waste, and community and state acceptance.

The principal threats from soil at the Site were previously addressed as part of the 1990-91 removal action and the 2001 pilot study. Because of the probability of DNAPL within the bedrock beneath the George West property, DNAPL within groundwater is a principal threat. The risks presented by this threat were previously addressed in the 2002 ROD through hydraulic containment and institutional controls. The determination to require clean up standards be met in non-source area groundwater was made by finding monitored natural attenuation was cost effective and would permanently reduce toxicity and volume of contaminants in groundwater through natural processes in a reasonable timeframe. In the interim, institutional controls can

adequately and reliably provide long-term protectiveness. As a result, this component of the selected remedy utilizes permanent solutions and alternative treatment or resource recovery technologies to the maximum extent practicable.

The decision to waive ARARs in the source area groundwater was made by taking into account the inability of any known technology to provide treatment that would address permanently and effectively in the long term contamination in groundwater in a reasonable timeframe. Because no treatment technology was identified that could clean up the source area groundwater in a reasonable time frame, this component of the selected remedy utilizes permanent solutions and alternative treatment or resource recovery technologies to the maximum extent practicable.

5. The Selected Remedy Does Not Satisfy the Preference for Treatment Which Permanently and Significantly Reduces the Toxicity, Mobility or Volume of the Hazardous Substances as a Principal Element

Alternative GW-2 provides for a technical impracticability waiver for source area groundwater. Because this waiver does not require any action be taken, this component of the remedy does not reduce the toxicity, mobility, and volume of groundwater contaminants. If engineering controls are implemented to address the vapor intrusion pathway, there may be some minimal reduction of contaminant volume through the use of adsorptive filters.

6. Five-Year Reviews of the Selected Remedy Are Required

Because this remedy will result in hazardous substances remaining on-site above levels that would otherwise allow for unlimited use and unrestricted exposure, a review will be conducted within five years after initiation of the remedial action to ensure that the remedy continues to provide adequate protection of human health and the environment.

N. DOCUMENTATION OF NO SIGNIFICANT CHANGES

EPA presented Alternative GW-2 as the preferred alternative in the Proposed Plan issued for the Site on May 31, 2006. The preferred alternative included a monitored natural attenuation determination for non-source area groundwater, a technical impracticability waiver for source area groundwater, and characterization and implementation of response actions if necessary, for the potential vapor intrusion pathway. EPA reviewed all written and verbal comments submitted during the public comment period from May 31, 2006 through June 30, 2006. EPA has added language in response to two comments that were received during the public comment period. Specifically, these changes require an assessment of emerging technologies that will be used during the five-year reviews, and provide clarification regarding how institutional controls that have been implemented in response to the 2002 ROD may be modified in the future. These changes are minor in nature, not affecting the scope of the remedy as originally identified in the Proposed Plan and are not considered significant.

O. STATE ROLE

The MEDEP has reviewed the various alternatives and has indicated its support for the selected remedy. The State of Maine concurs with the selected remedy for the Site. A copy of the declaration of concurrence is attached as Appendix C.

RECORD OF DECISION RESPONSIVENESS SUMMARY

PREFACE:

In May 2006, the U.S. EPA presented a Proposed Plan for the final Record of Decision for the West Site/ Hows Corner Superfund Site in Plymouth, Maine. The Proposed Plan was based primarily upon the technical impracticability evaluation for a portion of the Site. All documents, which were relied upon in the selection of the cleanup action presented in the Proposed Plan, were placed in the Administrative Record, which is available for public review at the EPA Records Center at 1 Congress Street in Boston, Massachusetts and the Town Hall in Plymouth, Maine.

A 30-day comment period was held from May 31, 2006 to June 30, 2006. A public hearing was held on June 28, 2006. The comment period for the Proposed Plan ended on June 30, 2006.

The purpose of this Responsiveness Summary is to document EPA's responses to the questions and comments raised during the public comment period. EPA considered all of the comments summarized in this document before selecting a final remedial alternative to address contamination at the Site.

This Responsiveness Summary is organized into the following sections:

A. Summary of Comments Received During the Public Comment Period - This section summarizes, and provides EPA's response to, the oral and written comments received from the public during the comment period. Part A presents the comments received from citizens and local officials; Part B presents comments received from the Maine Department of Environmental Protection.

B. The Selected Remedy's Changes to the Proposed Remedy Made Based Upon Public Comments - This section summarizes any changes that were made to the preferred alternative presented in the Proposed Plan based upon EPA's consideration of the comments received during the public comment period.

A. SUMMARY OF COMMENTS RECEIVED DURING THE PUBLIC COMMENT PERIOD

This Responsiveness Summary addresses comments pertaining to the Proposed Plan that were received by EPA during the comment period from May 31, 2006 to June 30, 2006.

<u>SUMMARY OF COMMENTS FROM CITIZENS AND LOCAL OFFICIALS</u>

1. *Community members living on Sawyer Road and adjacent to the George West facility expressed concern regarding the operation of the treatment building for the hydraulic containment system and its impact on the neighborhood.*

   Response: The treatment system for the hydraulic containment system (and its associated building) was a component of the remedy selected in the 2002 ROD. Pursuant to a settlement reached with EPA, the State and a group of Potentially Responsible Parties, the design of this system is currently taking place. EPA has taken these concerns into account and will continue to do so as the design process continues. For example, the treatment system will not include a backup

electrical component so there will not be any noise associated from the running of a generator. In addition, care will be taken to site the building to minimize impacts to the community. It was noted by another community member that the noise at the Plymouth Water District pumping station was noticeable immediately outside that building but it did not require raising one's voice to carry on a conversation.

2. *Community members requested that the Record of Decision include provisions for modifying the institutional controls, particularly the town zoning ordinance and the restrictive covenants on individual properties.*

   Response: EPA agrees with this comment, and has incorporated provisions into the Record of Decision.

3. *A community member requested that, given the anticipated length of time that the source area groundwater will take to meet drinking water standards, the Record of Decision specifically require a review of emerging technologies during every five-year review.*

   Response: EPA agrees with the comment, and notes that the review process requires that, in addition to assessment of the protectiveness of the remedy, opportunities for optimizing the remedy also be assessed.

4. *A community member asked that her home be sealed to prevent any vapor intrusion from the contaminated groundwater.*

   Response: EPA will characterize the nature and extent of the potential vapor intrusion pathway. If unacceptable risks are identified, then appropriate actions will be identified to address these risks. Sealing of basements may be one of these appropriate actions.

5. *A community member asked that care be taken so that costs for the remedy are not borne directly by the Plymouth Water District or the Town of Plymouth*

Response: EPA acknowledges the concern in this comment. This is a comment on the enforcement process and not on the proposed remedy. As such, it is not appropriate to comment on this in the Responsiveness Summary.

6. *A community member requested that, given the description of the mass of contamination being primarily in the upper 100 feet of the bedrock and the length of time before the source area groundwater reaches drinking water standards, an alternative approach of mining/quarrying the Source Area be considered.*

Response: While quarrying the bedrock within the Source Area offers the greatly increased possibility of removing the contaminants within the Source Area in a greatly reduced timeframe compared to the selected remedy, there are significant drawbacks that make this technology unacceptable for this Site. In terms of effectiveness, the site conceptual model indicates that the majority, but not all, of the contaminant mass is located in the upper 85 feet of the bedrock. So it may be that the extent of mining would have to be expanded in order to capture all the contaminant mass, otherwise there could be some residual contamination that would still require a hydraulic containment system to ensure that drinking water standards are met in non-source area groundwater. In addition, this technology presents significant implementability issues. While mining operations are routinely performed, the presence of contamination adds to the significant short-term disturbances created by a mining operation. Assuming excavation of two

acres to a depth of 100 feet, this would equate to approximately 300,000 cubic yards of rock that would need to be washed to remove contamination. This wash water plus the volume from the dewatering of the excavation would require treatment to remove the contaminants. The washed rock would then either be stored on the George West property to be returned to the excavation or removed off the property – assuming 15-yard capacity trucks, that would equate to 20,000 truck trips along Sawyer Road and Route 7, neither of which roads are built for such traffic. If the washed rock were returned as backfill, there would still be some material transported offsite as there is always a volume increase once material is brought to the surface. Finally, the blasting needed for excavating bedrock, the operation of the equipment, and the creation of dust would create considerable impact in the neighborhood that EPA believes would be unacceptable to the majority of the facility's neighbors. Since there are significant issues associated with effectiveness and implementability of this approach, the cost of this technology was not evaluated.

SUMMARY OF STATE OF MAINE COMMENTS

1. *MEDEP concurs with the EPA's proposed alternative (Alternative GW-2, TI Waiver) based upon their understanding that the hydraulic containment alternative (i.e., the extraction and treatment of contaminated groundwater in the Source Area) selected for the non-source area groundwater in September 2002 will be implemented. Further, the MEDEP understands that Alternative GW-2 will comply with all ARARs other than those waived for the source area groundwater.*

   Response: EPA agrees with this comment. The design of the hydraulic containment system should be completed in early Spring 2007. EPA anticipates that negotiations with the PRPs over the installation and operation of the remedy selected in the September 2002 ROD and this ROD will begin in early 2007. The remedy will comply with all ARARs, except the chemical-specific ones that have been waived for the source area groundwater.

2. *MEDEP supports the implementation of active remedies to reduce the contaminant level in groundwater, in any manner, to shorten the length of time to meet groundwater cleanup ARARs throughout the entire site area*

   Response: EPA agrees with the comment and the selected remedy will include a review of emerging technologies that will be used during each five-year review in order to identify technologies that could achieve the goal of shortening the timeframe to meet the interim groundwater cleanup levels and other groundwater related ARARs.

B. THE SELECTED REMEDY'S CHANGES TO THE PROPOSED REMEDY MADE BASED UPON PUBLIC COMMENTS

Comments received during the public comment period included a request that assessment of emerging technologies be performed during each five-year review and that the process be clarified for removing institutional controls implemented for the 2002 Record of Decision. The requirement to assess emerging technologies, while not specifically included in the remedy proposed by EPA in May 2006, is consistent with the approach EPA has taken at other sites and has been incorporated into this ROD. The request to better define the process to remove institutional controls is a clarification to the 2002 ROD and procedures have been incorporated into this ROD to clarify this process.

HOWS CORNER 2006 RECORD OF DECISION

TABLES

September 2006

TABLE 1: Summary of Previous Investigations

Year	Agency/Contractor	Work Conducted
Feb. 1988	MEDEP/Weston Geophysical	Phase I investigations detected PCBs, PCE, trichlorobenzene, and tetrachlorobenzene in soils.
Oct. 1988 through July 1989	MEDEP/Weston Geophysical	Phase II investigations to conduct subsurface soil sampling, a soil-gas survey, a seismic refraction survey, monitoring well installation, and downhole geophysical logging, all documenting significant soil and groundwater contamination.
July 1989	MEDEP/Weston Geophysical	MEDEP and Weston sampled groundwater from all monitoring wells and contaminated residential wells. VOCs were detected in several monitoring wells.
Spring 1990	MEDEP	MEDEP requested USEPA's assistance with the construction of an alternative public water supply.
June 1990	USEPA	USEPA conducted a Site evaluation and determined a removal action was warranted.
Sept. 1990	USEPA	USEPA signs an Action Memorandum authorizing the expenditure of funds to minimize the threat posed by the Site. Proposed actions are divided into three steps: (1) soil evaluation, (2) design and install an alternative water supply, and (3) evaluate and install an Interim Remedial Measure (IRM) to stabilize the groundwater contaminant plume. (This third phase was later abandoned).
Oct. 1990	ATSDR	ATSDR reviews Site data and concludes that the contaminated soil poses an immediate threat to public health and the groundwater. USEPA installs a fence enclosing the Site to alleviate the threat of human contact, and initiates soil removal activities to the threat to groundwater.
Nov. 1990	USEPA/OHM	USEPA/OHM begins the removal of on-Site soil.
June 1991	USEPA/OHM	USEPA/OHM delineates the lateral extent of contaminated soils on Site. Soils were excavated to bedrock in all areas where PCBs were found to be above 10 mg/kg. Depth to bedrock ranged from 6 inches to 3 feet resulting in the removal of 847 tons of contaminated soil.
Feb. 1992	USEPA and MEDEP	USEPA and MEDEP determined that 48 residences might be appropriate for an alternative water supply.
June 1992	MEDEP	MEDEP purchases property to locate an alternative water supply and pump station.
Spring 1994	USEPA	USEPA proposes Hows Corner as an NPL Site.
Aug. 1995	USEPA/CDM	Design and construction of the alternative water supply was completed by USEPA/CDM. Thirty-six residences allowed their homes to be connected to the water system. Other residences declined an offer to be connected to the water system.
Sept. 1995	USEPA	USEPA finalizes the placement of the Hows Corner Site on the NPL.

Table 1: Summary of Previous Investigations (continued)

Year	Agency/Contractor	Work Conducted
Dec. 1995	USEPA	USEPA transferred ownership of the water system to MEDEP.
May 1996	USEPA	USEPA sampled six residential wells that had not been connected to the water system. One additional residence was found to contain Site-related groundwater contamination.
Nov. 1996	MEDEP	The 37th residence was connected to the water system.
1996 to March 1998	USEPA	Periodic groundwater sampling of residential wells was performed.
March 1998 to Oct 1999	PRPs/Acheron	Periodic groundwater sampling of residential wells was performed.
Nov 1999 to Present	W&C	Periodic groundwater sampling of residential wells continues to be performed.
August 1999	W&C	Groundwater at MW-2 well cluster was sampled.
Oct. 1999 through May 2000	W&C	Hows Corner PRP Group conducted RI in accordance with the Statement of Work (SOW). The RI consisted of field mapping, geophysical surveys, installation and hydraulic testing of bedrock monitoring wells, and extensive sampling of groundwater, soil, surface water, and sediment. A numerical groundwater flow model (MODFLOW) was developed to simulate groundwater flow based on the Site conceptual understanding, and the plume was simulated using MT3D. Simulations of the extent of the plume in 2000 closely matched the extent of the plume as measured in the field.
July 2001 through Dec. 2001	BBL	Hows Corner PRP Group conducted an *in-situ* chemical oxidation pilot test to evaluate the applicability of the technology for remediation at the Site.
July 2002	W&C	Hows Corner PRP Group completed the FS to develop and evaluate potential remedial alternatives for the Site. The FS included an evaluation of technologies for their applicability to treat groundwater contamination as well as their potential effectiveness for destruction of DNAPL. The FS also used the model developed during the RI to simulate the effect of various alternatives, including remedial time frames.
September 2002	USEPA	Interim ROD issued for Non-Source Area Groundwater at the Site.
June – September 2004	W&C	TI Evaluation field work completed at the Site including: boring and monitoring well installation; borehole geophysics; packer testing; bedrock core and groundwater sampling and analysis; and a pumping test.

Table 2
Well Construction Details
Monitoring Wells

Hows Corner Superfund Site
Plymouth, Maine

Well	Measuring Point Elevation (ft msl)	Ground Surface Elevation (ft msl)	Borehole Depth (ft bgs)	Top of Rock (ft bgs)	Well Completion Depth (ft bgs)	Screen Top (ft bgs)	Screen Bottom (ft bgs)	Depth to Top of Screen from Top of Rock (ft)	Screen Top Elevation (ft msl)	Screen Bottom Elevation (ft msl)	Screen Length (ft)
MW-101D	435.07	433.90	161.0	1.0	160.0	145.0	160.0	144.0	288.9	273.9	15.0
MW-101I	435.58	434.23	50.0	1.0	50.0	40.0	50.0	39.0	394.2	384.2	10.0
MW-101S	435.73	434.23	50.0	1.0	25.0	10.0	25.0	9.0	424.2	409.2	15.0
MW-102D	432.46	431.61	151.0	1.0	102.0	80.0	100.0	79.0	351.6	331.6	20.0
MW-102S	432.70	431.20	51.0	1.0	50.0	35.0	50.0	34.0	396.2	381.2	15.0
MW-103D	430.91	429.97	151.4	5.0	130.0	100.0	130.0	95.0	330.0	300.0	30.0
MW-103S	430.84	429.97	50.0	5.0	50.0	20.0	50.0	15.0	410.0	380.0	30.0
MW-104D	434.88	433.72	150.0	4.5	132.0	122.0	132.0	117.5	311.7	301.7	10.0
MW-104I	435.14	434.15	50.0	4.5	50.0	30.0	50.0	25.5	404.2	384.2	20.0
MW-104S	435.19	434.15	50.0	4.5	20.0	10.0	20.0	5.5	424.2	414.2	10.0
MW-105D	432.14	430.52	150.0	0.5	147.5	137.5	147.5	137.0	293.0	283.0	10.0
MW-106D	434.00	432.91	150.0	0.5	85.0	75.0	85.0	74.5	357.9	347.9	10.0
MW-106S	434.20	432.92	50.0	0.5	48.0	23.0	48.0	22.5	409.9	384.9	25.0
MW-107D	300.39	299.58	150.0	27.0	109.0	99.0	109.0	72.0	200.6	190.6	10.0
MW-108D	320.29	319.04	182.0	8.0	180.0	170.0	180.0	162.0	149.0	139.0	10.0
MW-108S	320.26	319.04	182.0	8.0	50.0	30.0	50.0	22.0	289.0	269.0	20.0
MW-110D	406.84	405.76	161.0	1.5	156.0	146.0	156.0	144.5	259.8	249.8	10.0
MW-111D	406.30	405.19	150.0	2.0	145.0	95.0	145.0	93.0	310.2	260.2	50.0
MW-112D	303.50	302.70	158.0	8.5	144.0	134.0	144.0	125.5	168.7	158.7	10.0
MW-112S	303.54	302.70	158.0	8.5	50.0	40.0	50.0	31.5	262.7	252.7	10.0
MW-113D	431.68	430.85	150.0	0.0	148.0	138.0	148.0	138.0	292.9	282.9	10.0
MW-114D	425.15	423.94	150.0	8.0	145.0	125.0	145.0	117.0	298.9	278.9	20.0
MW-114S	425.12	424.08	55.0	8.0	55.0	45.0	55.0	37.0	379.1	369.1	10.0
MW-115D	404.45	403.50	152.0	0.0	150.0	140.0	150.0	140.0	263.5	253.5	10.0
MW-12DB	426.25	423.86	63.0	0.0	62.3	51.7	61.7	51.7	372.2	362.2	10.0
MW-12SB	426.14	423.76	35.0	0.0	34.4	22.4	32.4	22.4	401.4	391.4	10.0
MW-13DB	379.43	377.62	97.0	11.0	70.0	58.0	68.0	47.0	319.6	309.6	10.0
MW-13SB	379.49	377.67	33.5	11.0	33.5	21.5	31.5	10.5	356.2	346.2	10.0
MW-14DB	328.79	327.14	111.0	77.5	111.0	99.0	109.0	21.5	228.1	218.1	10.0
MW-14SO	328.86	327.37	17.0	NA	17.0	5.0	15.0	NA	322.4	312.4	10.0
MW-15DB	419.19	416.57	83.5	1.0	68.7	56.7	66.7	55.7	359.9	349.9	10.0
MW-15SB	418.66	416.18	21.5	1.0	20.6	8.6	18.6	7.6	407.6	397.6	10.0
MW-16DB	413.11	410.92	75.0	15.0	73.0	61.0	71.0	46.0	349.9	339.9	10.0
MW-16IB	413.19	410.68	24.5	15.0	24.5	12.5	22.5	NA	398.2	388.2	10.0
MW-16SO	413.54	411.46	8.0	NA	8.0	3.0	8.0	NA	408.5	403.5	5.0
MW-17DO	301.33	299.85	100.0	24.5	26.0	14.0	24.0	NA	285.9	275.9	10.0
MW-17SO	302.17	299.73	18.0	NA	18.0	6.0	16.0	NA	293.7	283.7	10.0
MW-1B	437.54	435.10	84.0	3.0	75.2	63.2	73.2	60.2	371.9	361.9	10.0
MW-2DB	436.82	433.46	65.4	5.0	65.0	53.0	63.0	48.0	380.5	370.5	10.0
MW-2DDB	436.01	433.33	110.0	5.0	110.0	98.0	108.0	93.0	335.3	325.3	10.0
MW-2IB	437.08	434.62	30.0	5.0	30.0	18.0	28.0	13.0	416.6	406.6	10.0
MW-2SB	437.59	433.41	10.0	5.0	8.0	3.0	8.0	NA	430.4	425.4	5.0

Table 2
Well Construction Details
Monitoring Wells

Hows Corner Superfund Site
Plymouth, Maine

Well ID	Measuring Point Elevation	Ground Surface Elevation	Borehole Depth	Top of Rock	Well Completion Depth	Screen Top	Screen Bottom	Depth to Top of Screen from Top of Rock	Screen Top Elevation	Screen Bottom Elevation	Screen Length
MW-3B	428.18	426.07	73.0	7.0	71.5	59.5	69.5	52.5	366.6	356.6	10.0
MW-4O	401.46	398.85	100.0	24.0	24.0	12.2	22.2	NA	386.7	376.7	10.0
MW-5B	433.92	431.56	100.0	2.5	26.0	14.0	24.0	11.5	417.6	407.6	10.0
MW-6DB	430.56	428.03	80.0	4.5	80.0	68.0	78.0	63.5	360.0	350.0	10.0
MW-6SB	429.87	427.98	41.4	4.5	41.4	29.2	39.2	24.7	398.8	388.8	10.0
MW-8DB	338.00	335.69	100.0	15.9	55.0	43.0	53.0	27.1	292.7	282.7	10.0
MW-8SB	337.01	334.83	37.4	15.9	37.4	25.4	35.4	9.5	309.4	299.4	10.0
MW-203D	435.34	432.27	100.7	4.0	88.0	78.0	88.0	74.0	354.3	344.3	10.0
MW-203S	435.51	432.51	51.0	4.0	49.0	39.0	49.0	35.0	393.5	383.5	10.0
MW-204D	435.62	432.62	100.0	1.0	80.0	70.0	80.0	69.0	362.6	352.6	10.0
MW-204S	436.05	433.14	56.0	1.0	54.0	44.0	54.0	43.0	389.1	379.1	10.0
MW-205	426.39	423.89	100.0	0.0	34.8	24.8	34.8	24.8	399.1	389.1	10.0
MW-206D	432.93	430.07	100.0	0.0	99.0	89.0	99.0	89.0	341.1	331.1	10.0
MW-206S	433.12	430.08	40.0	0.0	38.0	28.0	38.0	28.0	402.1	392.1	10.0
PW-207	437.77	434.77	100.0	4.0	100.0	0.0	100.0	-4.0	434.8	334.8	100.0
PW-207OB	437.45	434.37	101.5	4.0	NA	NA	NA	NA	NA	NA	NA

Notes:

S = shallow
D = deep
DB = deep bedrock
SB = shallow bedrock
SO = shallow overburden
DO = deep overburden
O = overburden
B = bedrock
IB = Intermediate bedrock
ft MSL = feet mean sea level
ft bgs = feet below ground surface

Table 3
Packer Permeability and Packer Sampling Results for Potential Fracture Intervals
1999 Drilling Program

Hows Corner Superfund Site
Plymouth, Maine

Well ID	GS ELEV (ft. msl)	Top of Rock (ft msl)	TEST #	Potential Fracture Interval from Drilling (ft bgs)	Top Of Packer Interval (ft bgs)	Bottom of Packer Interval (ft bgs)	Depth to Middle of Interval (ft bgs)	Elevation of Interval (ft msl)	Hydraulic Conductivity (cm/sec)	PCE Concentration (ug/L)
MW-101D	433.9	432.9	13	28-29, 33-35, 37-39	27.1	37.6	32.4	401.6	0.00E+00	
MW-101D	433.9		12	37-39, 44-46	38.0	48.5	43.3	390.7	1.57E-04	
MW-101D	433.9		11		48.8	59.3	54.1	379.9	1.32E-04	
MW-101D	433.9		10	60-61	57.8	68.3	63.1	370.9	0.00E+00	
MW-101D	433.9		9		67.8	78.3	73.1	360.9	1.79E-05	
MW-101D	433.9		8		77.8	88.3	83.1	350.9	1.06E-05	
MW-101D	433.9		7		88.0	98.5	93.3	340.7	2.43E-05	
MW-101D	433.9		6		99.0	109.5	104.3	329.7	3.39E-06	
MW-101D	433.9		5		109.0	119.5	114.3	319.7	0.00E+00	
MW-101D	433.9		4		119.0	129.5	124.3	309.7	0.00E+00	
MW-101D	433.9		3	136.5-137.5	129.0	139.5	134.3	299.7	0.00E+00	
MW-101D	433.9		2	147-157	139.0	149.5	144.3	289.7	5.80E-05	
MW-101D	433.9		1	147-157	147.0	157.5	152.3	281.7	7.41E-05	
MW-102D	431.61	430.61	13		16.6	27.1	21.9	409.8	3.33E-04	
MW-102D	431.61		12	30-31, 36-40	26.0	36.5	31.3	400.4	1.54E-05	
MW-102D	431.61		11	36-40, 41-43	36.2	46.7	41.5	390.2	5.48E-05	
MW-102D	431.61		10		47.0	57.5	52.3	379.4	5.98E-05	
MW-102D	431.61		9		57.0	67.5	62.3	369.4	1.97E-05	
MW-102D	431.61		8		67.0	77.5	72.3	359.4	0.00E+00	
MW-102D	431.61		7		77.0	87.5	82.3	349.4	8.91E-05	
MW-102D	431.61		6	83-94	87.0	97.5	92.3	339.4	1.39E-05	
MW-102D	431.61		5		97.0	107.5	102.3	329.4	1.23E-04	
MW-102D	431.61		4		107.0	117.5	112.3	319.4	5.26E-06	
MW-102D	431.61		3		117.0	127.5	122.3	309.4	1.38E-05	
MW-102D	431.61		2		127.0	137.5	132.3	299.4	6.71E-06	
MW-102D	431.61		1		137.0	147.5	142.3	289.4	0.00E+00	
MW-103D	429.97	424.97	13	18-19	17.0	27.5	22.3	407.7	0.00E+00	
MW-103D	429.97		12		26.0	36.5	31.3	398.7	1.66E-05	
MW-103D	429.97		11		36.0	46.5	41.3	388.7	1.27E-05	
MW-103D	429.97		10		46.0	56.5	51.3	378.7	1.92E-05	
MW-103D	429.97		9		56.0	66.5	61.3	368.7	1.52E-05	
MW-103D	429.97		8		66.0	76.5	71.3	358.7	1.78E-05	
MW-103D	429.97		7	85-86	76.3	86.8	81.6	348.4	2.60E-05	
MW-103D	429.97		6		86.0	96.5	91.3	338.7	2.89E-05	
MW-103D	429.97		5	102-103	96.0	106.5	101.3	328.7	1.02E-04	
MW-103D	429.97		4		106.0	116.5	111.3	318.7	5.22E-06	
MW-103D	429.97		3		116.0	126.5	121.3	308.7	5.20E-06	
MW-103D	429.97		2	129-130	126.0	136.5	131.3	298.7	9.60E-04	
MW-103D	429.97		1		136.0	146.5	141.3	288.7	0.00E+00	
MW-104D	433.72	429.22	11	35-37, 42-45	35.0	45.5	40.3	393.5	6.84E-04	
MW-104D	433.72		10		46.0	56.5	51.3	382.5	5.00E-05	
MW-104D	433.72		9		56.0	66.5	61.3	372.5	1.06E-05	
MW-104D	433.72		8	72-74	66.0	76.5	71.3	362.5	2.04E-05	
MW-104D	433.72		7		76.0	86.5	81.3	352.5	8.72E-06	
MW-104D	433.72		6		86.0	96.5	91.3	342.5	4.67E-06	
MW-104D	433.72		5		96.0	106.5	101.3	332.5	2.00E-05	
MW-104D	433.72		4		106.0	116.5	111.3	322.5	3.54E-05	
MW-104D	433.72		3	125-130	116.0	126.5	121.3	312.5	1.57E-05	
MW-104D	433.72		2	125-130	126.0	136.5	131.3	302.5	3.37E-04	
MW-104D	433.72		1		136.5	146.5	141.5	292.2	6.89E-06	
MW-105D	430.52	430.02	2	54-58	49.0	59.5	54.3	376.3	1.24E-05	2100
MW-105D	430.52		1	139-140, 145-146	136.7	147.2	142.0	288.6	1.54E-04	1400
MW-106D	432.91	432.91	3	31-33	26.0	36.5	31.3	401.7	4.32E-06	
MW-106D	432.91		2	77-78	76.0	86.5	81.3	351.7	2.30E-03	400
MW-106D	432.91		1	143-144	135.5	146.0	140.8	292.2	9.71E-06	350

Table 3
Packer Permeability and Packer Sampling Results for Potential Fracture Intervals
1999 Drilling Program

Hows Corner Superfund Site
Plymouth, Maine

Well ID	GS ELEV (ft. msl)	Top of Rock (ft msl)	TEST #	Potential Fracture Interval from Drilling (ft bgs)	Top Of Packer Interval (ft bgs)	Bottom of Packer Interval (ft bgs)	Depth to Middle of Interval (ft bgs)	Elevation of Interval (ft msl)	Hydraulic Conductivity (cm/sec)	PCE Concentration (ug/L)
MW-107D	299.58	272.58	4		45.0	55.5	50.3	249.3	0.00E+00	(2.1)A
MW-107D	299.58		3	103-105	100.0	110.5	105.3	194.3	7.52E-04	(0.63)A
MW-107D	299.58		2	128-130	120.0	130.5	125.3	174.3	3.23E-05	<5
MW-107D	299.58		1	139-141	135.0	145.5	140.3	159.3	2.08E-05	(1.4A)
MW-108D	319.04	311.04	6	35-36	30.0	40.5	35.3	283.8	4.71E-03	9.8
MW-108D	319.04		5	60-62	55.0	65.5	60.3	258.8	4.71E-03	11
MW-108D	319.04		4	80-83	75.0	85.5	80.3	238.8	6.24E-05	15
MW-108D	319.04		3	118-119, 123-124	115.0	125.5	120.3	198.8	3.16E-05	22
MW-108D	319.04		2	147-149	144.0	154.5	149.3	169.8	2.64E-05	11
MW-108D	319.04		1		170.0	180.5	175.3	143.8	2.61E-05	30
MW-110D	405.76	404.26	2	21-31	21.0	31.5	26.3	379.5	0.00E+00	200
MW-110D	405.76		1	148-154	146.0	156.5	151.3	254.5	2.00E-04	(62)A
MW-111D	405.19		4	70-71	65.0	75.5	70.3	334.9	9.53E-05	110
MW-111D	405.19		3	79-82, 84-86	78.0	88.5	83.3	321.9	0.00E+00	210
MW-111D	405.19		2	97-102	95.0	105.5	100.3	304.9	0.00E+00	300
MW-111D	405.19		1		137.0	147.5	142.3	262.9	2.12E-05	240
MW-112D	302.7	294.2	4	42-52	42.0	52.5	47.3	255.5	3.61E-05	(4.4)A
MW-112D	302.7		3		85.0	95.5	90.3	212.5	4.10E-06	(2.3)A
MW-112D	302.7		2		110.0	120.5	115.3	187.5	2.89E-06	
MW-112D	302.7		1	135-136, 140-141	134.0	144.5	139.3	163.5	2.92E-05	5
MW-113D	430.85	430.85	5		25.0	35.5	30.3	400.6	7.86E-05	
MW-113D	430.85		4	47-49	46.0	56.5	51.3	379.6	1.24E-05	350
MW-113D	430.85		3	73-74	70.0	80.5	75.3	355.6	1.51E-05	190
MW-113D	430.85		2		105.0	115.5	110.3	320.6	8.22E-06	129
MW-113D	430.85		1		138.0	148.5	143.3	287.6	8.21E-06	230
MW-114D	423.94	415.94	4	48-49	45.0	55.5	50.3	375.7	8.58E-05	2200
MW-114D	423.94		3	79-81	74.0	84.5	79.3	344.7	1.69E-05	1900
MW-114D	423.94		2	121-129	125.0	135.5	130.3	293.7	3.52E-03	2600
MW-114D	423.94		1	134-142	135.0	145.5	140.3	283.7	8.66E-05	2600
MW-115D	403.5	403.5	4		30.0	40.5	35.3	368.3	2.23E-05	(1.7)A
MW-115D	403.5		3	70-71	65.0	75.5	70.3	333.3	3.94E-06	(1.6)A
MW-115D	403.5		2		115.0	125.5	120.3	283.3	1.22E-05	(1.9)A
MW-115D	403.5		1		140.0	150.5	145.3	258.3	5.25E-06	9.6
LOT-28W	382		7		45.0	55.5	50.3	331.8	1.31E-05	
LOT-28W	382		6		55.0	65.5	60.3	321.8	1.82E-05	
LOT-28W	382		5		65.0	75.5	70.3	311.8	1.62E-05	
LOT-28W	382		4		75.0	85.5	80.3	301.8	1.29E-05	
LOT-28W	382		3		85.0	95.5	90.3	291.8	1.90E-05	
LOT-28W	382		2		95.0	105.5	100.3	281.8	1.90E-04	
LOT-28W	382		1		105.5	115.5	110.5	271.5	9.81E-04	

NOTES:
cm/sec = centimeters per second
ft bgs = feet below ground surface
ft msl = feet below mean sea level
< = not detected at indicated reporting limit
A = detected below laboratory PQL.
( ) = detected below reporting limits

Table 4
Packer Permeability and Packer Sampling Results for Potential Fracture Intervals
2004 Drilling Program

Hows Corner Superfund Site
Plymouth, Maine

Well ID	GS ELEV (ft. msl)	TEST #	Potential Transmissive Zones (ft bgs)	Top of Packer Interval (ft bgs)	Bottom of Packer Interval (ft bgs)	Depth to Middle of Interval (ft bgs)	Midpoint Elevation of Interval (ft msl)	Hydraulic Conductivity (cm/sec)	PCE Concentration (ug/L)
MW-203D	432.27	4	27.7, 27.9	24	32	28	404.3	6.67E-05	44
		3	40.8, 41.5, 42.0	39	49	44	388.3	5.93E-05	170
		2	52.6, 53.0	49	57	53	379.3	1.01E-04	140
		1	82.8, 83.0, 84.2	80	88	84	348.3	7.01E-05	130
MW-204D	432.62	5	29.5, 30.0	26	34	30	402.3	9.02E-05	220
		4	46.3, 49.6, 51.3, 51.6	45	53	49	383.3	1.19E-04	540
		3	68.1, 68.5, 68.8	63	71	67	365.3	0.00E+00	
		2	75.8, 76.2	71	79	75	357.3	3.09E-05	260
		1		88	96	92	340.3	0.00E+00	
MW-205	423.89	3	16.4, 16.6, 16.8	15	20	17.5	414.8	0.00E+00	1000B
		2	30.2, 30.5, 31.2	30	35	32.5	399.8	1.07E-04	1300B
		1		40	45	42.5	389.8	0.00E+00	
MW-206D	430.07	5		17	22	19.5	412.8	2.91E-05	
		4	29.6, 30.2, 30.7	29	34	31.5	400.8	9.40E-05	2900B
		3	52.2	52	57	54.5	377.8	9.44E-07	
		2	65.6	64	69	66.5	365.8	3.53E-06	
		1	92.3, 92.7, 93.4, 93.9	91	96	93.5	338.8	6.14E-05	6300B
PW-207	434.77	5	18.46, 22.16, 28.19	18	29	23.5	408.8	2.09E-05	1300
		4	35.08	32	43	37.5	394.8	5.68E-06	5400
		3	53.32, 53.41, 54.21, 54.32, 55.59	50	61	55.5	376.8	8.21E-05	18000
		2	63.59	61	72	66.5	365.8	8.66E-06	12000
		1	86.85	84	89	86.5	345.8	2.13E-05	19000

NOTES:
cm/sec = centimeters per second
ft bgs = feet below ground surface
ft msl = feet above mean sea level
B = detected in lab blank

Table 5
Orientation, Permeability, and Groundwater Sampling Results for Transmissive Features
2004 Drilling Program

Hows Corner Superfund Site
Plymouth, Maine

Borehole	Geophisical Log Feature Number	Feature depth (Feet)	Dip Degrees	True Dip Azimuth	True Strike	Transmissive? (Likely/ Possible)	Hydraulic Conductivity (cm/sec)	PCE (ug/L)	Total VOCs (ug/l)	PCE % of Total VOCs
MW-203	5	27.7	64	337	67	Likely	6.67 E-05	44	84	52%
	6	27.9	59	11	281	Likely				
	8	35.2	14	177	87	Likely				
	11	38.1	46	96	6	Possible				
	12	40.8	35	271	1	Possible	5.93 E-05	170	234	73%
	14	41.5	57	250	340	Possible				
	15	42.0	58	202	292	Likely				
	18	52.6	52	75	345	Likely	1.01 E-04	140	192	73%
	19	53.0	52	82	352	Likely				
	28	82.8	48	75	345	Likely	7.10 E-05	130	183	71%
	29	83.0	52	17	287	Likely				
	30	83.0	56	233	323	Possible				
	31	84.2	50	130	40	Likely				
MW-204	4	29.5	15	147	57	Likely	9.02 E-05	220	263.6	83%
	5	30.0	43	91	1	Likely				
	11	43.9	31	80	350	Possible				
	12	44.0	46	219	309	Possible				
	14	46.3	50	358	88	Likely	1.19 E-04	540	643.6	84%
	15	49.6	34	198	288	Likely				
	16	51.3	54	17	287	Likely				
	17	51.6	33	14	284	Likely				
	25	68.1	39	359	89	Possible	0			
	26	68.5	22	45	315	Possible				
	27	68.8	35	73	343	Possible				
	32	75.8	45	236	326	Likely	3.09 E-05	260	307.3	85%
	33	76.2	46	306	36	Likely				
MW-205	5	16.4	69	106	16	Possible	0	1000B	1144.8	87%
	6	16.6	78	165	75	Possible				
	7	16.8	82	115	25	Possible				
	8	16.8	68	116	26	Possible				
	12	21.5	46	222	312	Possible				
	13	21.7	75	62	332	Possible				
	14	21.9	29	32	302	Possible		1100B	1250.9	88%
	16	23.7	69	250	340	Possible				
	17	25.6	73	353	83	Possible				
	18	27.2	44	202	292	Possible				
	21	29.9	37	196	286	Possible				
	22	30.2	31	206	296	Possible	1.07 E-04	1300B	1377.6	94%
	23	30.5	59	48	318	Likely				
	24	31.2	63	42	312	Likely				
MW-206	1	26.4	37	181	271	Likely				
	2	29.6	69	217	307	Likely	9.4 E-05	2900B	3240.1	90%
	3	30.2	66	233	323	Likely				
	4	30.7	64	224	314	Likely				

Table 5
Orientation, Permeability, and Groundwater Sampling Results for Transmissive Features
2004 Drilling Program

Hows Corner Superfund Site
Plymouth, Maine

Borehole	Geophisical Log Feature Number	Feature depth (Feet)	Dip Degrees	True Dip Azimuth	True Strike	Transmissive? (Likely/ Possible)	Hydraulic Conductivity (cm/sec)	PCE (ug/L)	Total VOCs (ug/l)	PCE % of Total VOCs
	8	34.2	62	259	349	Likely				
	22	52.2	57	54	324	Possible	9.44 E-07			
	25	65.6	40	82	352	Possible	3.53 E-06			
	32	87.1	59	151	61	Possible				
	33	88.3	53	185	275	Possible				
	34	89.5	7	175	85	Likely				
	35	89.9	53	90	0	Likely				
	36	90.2	49	184	274	Likely				
	37	92.3	9	175	85	Likely				
	38	92.7	42	206	296	Likely	6.14 E-05	6300B	6890.1	91%
	39	93.4	48	167	77	Likely				
	40	93.9	26	180	90	Likely				
PW-207	1	18.46	33	167	77	Likely				
	4	22.16	49	289	19	Possible	2.09 E-05	1300	1410	92%
	7	28.19	59	265	355	Possible				
	11	35.08	55	189	279	Possible	5.68 E-06	5400	5802	93%
	18	53.32	43	305	35	Likely				
	19	53.41	51	30	300	Likely				
	20	54.21	20	254	344	Likely	8.21 E-05	18000	19234	94%
	21	54.32	39	301	31	Likely				
	23	55.59	52	302	32	Likely				
	25	63.59	24	182	272	Possible	8.66 E-06	12000	13085	92%
	29	80.49	77	231	321	Possible				
	30	86.85	78	38	308	Likely	2.13 E-05	19000	20354	93%
	32	93.34	29	194	284	Likely				

NOTES:

B = detected in lab blank

Table 6
Groundwater Analytical Results - Most Recent Sampling

Hows Corner Superfund Site
Plymouth, Maine

	SITE_ID	MW-101D	MW-101I	MW-101S	MW-102D	MW-102S	MW-103D	MW-103S	MW-104D	MW-104I	MW-104S	MW-105D	MW-106D
	DATE	5/24/2000	5/24/2000	5/24/2000	5/23/2000	9/9/2004	9/9/2004	9/9/2004	9/9/2004	9/9/2004	5/24/2000	5/22/2000	9/8/2004
	ID	MW-101D	MW-101I	MW-101S	MW-102D	MW-102S	MW-103D	MW-103S	MW-104D	MW-104I	MW-104S	MW-105D	MW-106D
Parameter	RESULT TYPE	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary
Acetone		<5	<5	<5	<5J	4J	11	2J	2J	2J	<5	<5J	3J
Benzene		<1	0.6J	<1	<1	<1	0.1J	<1	<1	<1	<1	<1	<1
2-Butanone		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5J	<5
n-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon disulfide		<2.0	<2.0	<2.0	<2.0	<1	<1	<1	<1	<1	<2.0	<2.0	<1
Chlorobenzene		<1	<1	<1	<1	<1	1	0.3J	<1	0.3J	<1	<1	<1
Chloroform		<1	<1	<1	<1	<1	0.1J	<1	<1	<1	<1	<1	<1
Chloromethane		<2	<2	<2	<2	<2	2	<2	<2	<2	<2	<2	<2
1,2-Dichlorobenzene		<1	<1	<1	<1	<1	0.4J	<1	<1	1	1	<1	<1
1,3-Dichlorobenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene		<1	<1	<1	<1	<1	0.9J	<1	<1	0.5J	0.7J	<1	<1
1,1-Dichloroethane		0.6J	2	<1	<1	1	3	0.8J	0.7J	2	1	0.6J	<1
1,1-Dichloroethene		<1	0.6J	<1	2	2	21	14	2	2	4	2	0.5J
cis-1,2-Dichloroethene		90	370	630	22	55	100	24	81	94	33	22	7
trans-1,2-Dichloroethene		1	7	7	<1	0.6J	2	0.4J	0.7J	2	2	<1	<1
Diethyl ether		<2	<2	<2	<2	<1	<1	<1	<1	<1	<2	<2	<1
Ethylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Isopropylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
p-Isopropyltoluene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methylene chloride		<1J	<1J	<1J	<1J	<1	<1	<1	<1	<1	<1J	<1J	<1
MTBE		<1	<1	<1	<1	<2	<2	<2	<2	<2	<1	<1	<2
Naphthalene		<1	<1	<1	<1J	<1	<1J	<1	<1	1	1	<1	<1
n-Propylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1,2-Tetrachloroethane		<1	<1	<1	<1	<1	1	0.7J	<1	0.2J	0.9J	<1	<1
Tetrachloroethene		540	1700	460	1200	2200	14000	4000	1200	11000	13000	420J	280
Tetrahydrofuran		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Toluene		<1	<1	<1	<1	<1	0.2J	<1	<1	<1	<1	<1	<1
1,2,3-Trichlorobenzene		<1	<1	<1	<1	<1	9J	0.5J	<1	4	3	<1	<1
1,2,4-Trichlorobenzene		<1	<1	<1	<1	<1	1	<1	<1	9	5	<1	<1
1,1,1-Trichloroethane		6	9	1	14	15	400	170	36	61	140	23	8
Trichloroethene		280	1200	530	120	160	740	94	160	910	850	97	21
1,2,4-Trimethylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl chloride		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
o-Xylene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
m+p-Xylenes		<1	<1	<1	<1	<2	<2	<2	<2	<2	<1	<1	<2

Results in micrograms per liter (ug/l)
< = not detected at reporting limit
J = estimated
U = result revised to nondetect

Table 6
Groundwater Analytical Results - Most Recent Sampling

Hows Corner Superfund Site
Plymouth, Maine

	SITE_ID	MW-106S	MW-107D	MW-108D	MW-108S	MW-110D	MW-111D	MW-112D	MW-112S	MW-113D	MW-114D	MW-114S	MW-115D
	DATE	9/8/2004	5/22/2000	9/8/2004	9/8/2004	5/24/2000	5/22/2000	9/7/2004	9/7/2004	5/23/2000	9/8/2004	9/8/2004	9/7/2004
	ID	MW-106S	MW-107D	MW-108D	MW-108S	MW-110D	MW-111D	MW-112D	MW-112S	MW-113D	MW-114D	MW-114S	MW-115D
Parameter	RESULT TYPE	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary
Acetone		<5	<5	5J	9	<5	<5	2J	<5	<5J	5	2J	2J
Benzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	0.1J	<1	<1
2-Butanone		<5	<5	<5	<5	<5	<5	<5	<5	<5J	<5	<5	<5
n-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon disulfide		<1	<2.0	0.3J	<1	1J	<2.0	<1	<1	<2.0	<1	<1	0.3J
Chlorobenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	0.2J	<1	<1
Chloroform		<1	<1	<1	0.2J	<1	<1	<1	<1	<1	0.2J	<1	<1
Chloromethane		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
1,2-Dichlorobenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	0.3J	<1	<1
1,3-Dichlorobenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane		<1	<1	<1	<1	<1	<1	<1	<1	<1	0.9J	<1	<1
1,1-Dichloroethene		<1	<1	<1	<1	<1	<1	<1	<1	<1	17	4	<1
cis-1,2-Dichloroethene		<1	<1	<1	<1	<1	2	<1	<1	2	25	6	<1
trans-1,2-Dichloroethene		<1	<1	<1	<1	<1	<1	<1	<1	<1	0.3J	0.2J	<1
Diethyl ether		<1	<2	<1	0.2J	<2	<2	<1	<1	<2	<1	<1	<1
Ethylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Isopropylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
p-Isopropyltoluene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methylene chloride		<1	<1J	<1	<1	<1J	<1J	<1	<1	<1J	<1	<1	<1
MTBE		<2	<1	<2	<2	<1	<1	<2	<2	<1	0.3J	0.5J	<2
Naphthalene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1J	<1
n-Propylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1,2-Tetrachloroethane		<1	<1	<1	<1	<1	<1	<1	<1	<1	0.5J	0.2J	<1
Tetrachloroethene		<1U	<1	<1	23	5	5	<1	<1	4	3500	1500	<1
Tetrahydrofuran		<10	<10	<10	<10	<10	<10	<10	<10	7J	<10	<10	<10
Toluene		<1	<1	0.6J	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichlorobenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	0.3J	<1	<1
1,2,4-Trichlorobenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1J	<1
1,1,1-Trichloroethane		<1	<1	<1	2	2	<1	<1	<1	<1	140	40	<1
Trichloroethene		<1	<1	<1	0.5J	<1	0.8J	<1	<1	4	140	52	<1
1,2,4-Trimethylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl chloride		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	0.3J
o-Xylene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
m+p-Xylenes		<2	<1	<2	<2	<1	<1	<2	<2	<1	<2	<2	<2

Results in micrograms per liter (ug/l)
< = not detected at reporting limit
J = estimated
U = result revised to nondetect

Table 6
Groundwater Analytical Results - Most Recent Sampling

Hows Corner Superfund Site
Plymouth, Maine

	SITE_ID	MW-12DB	MW-12SB	MW-13DB	MW-13DB	MW-13SB	MW-14DB	MW-14SO	MW-15DB	MW-15DB	MW-15SB	MW-16DB	MW-16IB
	DATE	5/22/2000	5/22/2000	9/8/2004	9/8/2004	5/23/2000	1/5/2000	12/21/1999	5/22/2000	5/22/2000	5/22/2000	9/8/2004	9/8/2004
	ID	MW-12DB	MW-12SB	MW-13DB	MW-13DBDUP	MW-13SB	MW-14DB	MW-14SO	MW-15DB	MW-15DB DUP	MW-15SB	MW-16DB	MW-16IB
Parameter	RESULT TYPE	Primary	Primary	Primary	Duplicate	Primary	Primary	Primary	Primary	Duplicate	Primary	Primary	Primary
Acetone		<5	<5.J	<5	3J	<5J	<5	<5J	<5J	<5J	<5J	7	<5
Benzene		<1	<1.	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-Butanone		<5	<5.J	<5	<5	<5	<5	<5	<5J	<5J	<5J	<5	<5
n-Butylbenzene		<1	<1.	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene		<1	<1.	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon disulfide		<2.0	<2.	<1	<1	<2.0	<2.0	<2.0J	<2.0	<2.0	<2.0	<1	<1
Chlorobenzene		<1	<1.	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroform		<1	<1.	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane		<2	<2.	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
1,2-Dichlorobenzene		<1	<1.	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene		<1	<1.	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene		<1	<1.	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane		<1	<1.	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene		<1	<1.	0.4J	0.4J	<1	<1	<1	<1	<1	<1	0.2J	<1
cis-1,2-Dichloroethene		<1	<1.	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene		<1	<1.	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Diethyl ether		<2	<2.	<1	<1	<2	<2	<2	<2	<2	<2	<1	<1
Ethylbenzene		<1	<1.	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Isopropylbenzene		<1	<1.	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
p-Isopropyltoluene		<1	<1.	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methylene chloride		<1J	<1.J	<1	<1	<1J	<1J	1	<1J	<1J	<2J	<1	<1
MTBE		<1	<1.	<2	<2	<1	<1	<1	<1	<1	<1	<2	<2
Naphthalene		<1	<1.J	<1	<1	<1J	<1	<1	<1J	<1J	<1J	<1	<1
n-Propylbenzene		<1	<1.	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1,2-Tetrachloroethane		<1	<1.	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene		37	<1.J	9	10	3	<1	<1	<1J	<1J	<1J	13	<1
Tetrahydrofuran		<10	<10.	<10	<10	<10	<10	<10J	<10	<10	<10	<10	<10
Toluene		<1	<1.	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichlorobenzene		<1	<1.J	<1	<1	<1	<1	<1	<1J	<1J	<1J	<1	<1
1,2,4-Trichlorobenzene		<1	<1.J	<1	<1	<1	<1	<1	<1J	<1J	<1J	<1	<1
1,1,1-Trichloroethane		3	<1.	8	8	<1	<1	<1	<1	<1	<1	3	<1
Trichloroethene		0.6J	<1.	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene		<1	<1.	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene		<1	<1.	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl chloride		<2	<2.	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
o-Xylene		<1	<1.	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
m+p-Xylenes		<1	<1.	<2	<2	<1	<1	<1	<1	<1	<1	<2	<2

Results in micrograms per liter (ug/l)
< = not detected at reporting limit
J = estimated
U = result revised to nondetect

Table 6
Groundwater Analytical Results - Most Recent Sampling

Hows Corner Superfund Site
Plymouth, Maine

	SITE_ID	MW-16SO	MW-17DO	MW-17SO	MW-1B	MW-203D	MW-203S	MW-204D	MW-204S	MW-205	MW-205	MW-206D	MW-206S
	DATE	12/20/1999	5/22/2000	5/22/2000	9/9/2004	9/8/2004	9/8/2004	9/8/2004	9/8/2004	9/8/2004	9/8/2004	9/8/2004	9/8/2004
	ID	MW-16SO	MW-17DO	MW-17SO	MW-1B	MW-203D	MW-203S	MW-204D	MW-204S	MW-205	MW-205DUP	MW-206D	MW-206S
Parameter	RESULT TYPE	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Duplicate	Primary	Primary
Acetone		<5J	<5	<5	10	<5	2J	2J	<5	4J	7	3J	2J
Benzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-Butanone		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
n-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon disulfide		<2.0	<2.0	<2.0	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene		<1	<1	<1	<1	0.3J	<1	<1	<1	0.1J	0.1J	0.5J	<1
Chloroform		<1	<1	<1	0.1J	<1	<1	<1	<1	<1	0.1J	0.1J	<1
Chloromethane		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
1,2-Dichlorobenzene		<1	<1	<1	0.3J	<1	<1	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene		<1	<1	<1	<1	0.3J	<1	<1	<1	<1	<1	0.3J	<1
1,1-Dichloroethane		<1	<1	<1	1	3	<1	<1	1	<1	<1	2	<1
1,1-Dichloroethene		<1	<1	<1	3	6	<1	0.3J	0.5J	2	2	16	1
cis-1,2-Dichloroethene		<1	<1	<1	18	34	16	20	44	14	14	39	2
trans-1,2-Dichloroethene		<1	<1	<1	0.3J	0.3J	<1	<1	<1	<1	0.2J	0.5J	<1
Diethyl ether		<2	<2	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Isopropylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
p-Isopropyltoluene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methylene chloride		<1	<1J	<1J	<1	<1	<1	<1	<1	<1J	<1J	<1J	<1
MTBE		<1	<1	<1	<2	<2	<2	<2	<2	<2	<2	<2	<2
Naphthalene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
n-Propylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1,2-Tetrachloroethane		<1	<1	<1	0.2J	0.2J	<1	<1	<1	<1	<1	0.6J	<1
Tetrachloroethene		<1	<1	<1	2400	2800	270	360	560	1100	1100	5000	410
Tetrahydrofuran		<10J	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Toluene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	0.2J	<1
1,2,3-Trichlorobenzene		<1	<1	<1	0.3J	2	<1	0.4J	0.5J	1	1	3	<1
1,2,4-Trichlorobenzene		<1	<1	<1	<1	0.5J	<1	<1	<1	<1	<1	0.3J	<1
1,1,1-Trichloroethane		<1	<1	<1	88	95	7	10	19	30	35	190	17
Trichloroethene		<1	<1	<1	140	220	31	43	110	64	75	240	17
1,2,4-Trimethylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl chloride		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
o-Xylene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
m+p-Xylenes		<1	<1	<1	<2	<2	<2	<2	<2	<2	<2	<2	<2

Results in micrograms per liter (ug/l)
< = not detected at reporting limit
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Table 6
Groundwater Analytical Results - Most Recent Sampling

Hows Corner Superfund Site
Plymouth, Maine

	SITE_ID	MW-2DB	MW-2DDB	MW-2IB	MW-3B	MW-6SB	MW-8DB	MW-8SB	PW-207	SEEP-1	LOT11-4	LOT15
	DATE	9/9/2004	1/4/2000	9/9/2004	9/8/2004	5/23/2000	5/25/2000	5/25/2000	9/9/2004	10/29/1999	9/14/2004	12/14/1999
	ID	MW-2DB	MW-2DDB	MW-2IB	MW-3B	MW-6SB	MW-8DB	MW-8SB	PW-207	SEEP-1	WS/HC(11-4)SAWYER	LOT15
Parameter	RESULT TYPE	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary
Acetone		<5	20J	15	10	<5J	<5	<5	3J	<5.J	---	---
Benzene		0.6J	<1.	<1	<1	<1	<1	<1	0.1J	<1.	—	<0.5
2-Butanone		<5	7	<5	<5	<5	<5	<5	<5	<5.	---	---
n-Butylbenzene		2	<1.	<1	<1	<1	<1	<1	<1	<1.	---	<0.5
sec-Butylbenzene		1	<1.	<1	<1	<1	<1	<1	<1	<1.	—	<0.5
Carbon disulfide		<1	<2.	0.2J	<1	<2.0	<2.0J	<2.0J	<1	<2.	---	---
Chlorobenzene		2	<1.	0.3J	<1	<1	<1	<1	2	<1.	—	<0.5
Chloroform		<1	<1.	<1	0.1J	<1	<1	<1	0.2J	<1.	<0.5	<0.5
Chloromethane		<2	<2.	<2	<2	<2	<2	<2	<2	<2.	—	<1
1,2-Dichlorobenzene		4	0.5J	1	<1	<1	<1	<1	2	<1.	---	<0.5
1,3-Dichlorobenzene		0.9J	0.5J	0.6J	<1	<1	<1	<1	0.4J	<1.	---	0.4J
1,4-Dichlorobenzene		5	0.7J	3	<1	<1	<1	<1	2	<1.	---	<0.5
1,1-Dichloroethane		7	24	2	<1	<1	<1	<1	3	<1.	—	<0.5
1,1-Dichloroethene		12	9	1	2	<1	<1	<1	24	<1.	<0.5	<0.5
cis-1,2-Dichloroethene		190J	3	1000	2	3	<1	<1	110	<1.	<0.5	<0.5
trans-1,2-Dichloroethene		4	1	12	<1	<1	<1	<1	2	<1.	<0.5	<0.5
Diethyl ether		<1	<2.	<1	<1	<2	<2	<2	<1	<2.	---	---
Ethylbenzene		12	1	1	<1	<1	<1	<1	0.4J	<1.	---	<0.5
Isopropylbenzene		6	<1.	1	<1	<1	<1	<1	0.9J	<1.	—	<0.5
p-Isopropyltoluene		3	<1.	1	<1	<1	<1	<1	<1	<1.	—	<0.5
Methylene chloride		<1	<1.	<1	<1	<1J	<1J	<1J	<1	1	<0.5J	<2.5J
MTBE		<2	<1.	<2	2	<1	<1	<1	<2	0.7J	---	<0.5
Naphthalene		9J	0.5J.	1J	<1	<1J	<1	<1	1J	<1.	---	<1.0
n-Propylbenzene		8	<1.	0.8J	<1	<1	<1	<1	<1	<1.	—	<0.5
1,1,1,2-Tetrachloroethane		0.4J	<1.	<1	<1	<1	<1	<1	2	<1.	—	<0.5
Tetrachloroethene		18000	2400	5800	380	26	14	2	18000	82	<0.5	2
Tetrahydrofuran		<10	<10.J	<10	<10	<10	<10	<10	<10	<10.	—	—
Toluene		0.3J	<1.	<1	<1	<1	<1	<1	0.3J	<1.	—	<1.0
1,2,3-Trichlorobenzene		44J	17	40J	<1	<1	<1	<1	17J	<1.	---	<1.0
1,2,4-Trichlorobenzene		160	53	96	<1	<1	<1	<1	48	<1.	<0.5J	<0.5
1,1,1-Trichloroethane		300	100	30	16	0.8J	2	<1	620	0.7J	<0.5	0.3J
Trichloroethene		4500	58	4800	15	2	<1	<1	820	4	<0.5	<0.5
1,2,4-Trimethylbenzene		4	2	1	<1	<1	<1	<1	0.3J	<1.	---	<0.5
1,3,5-Trimethylbenzene		5	0.8J	1.0J	<1	<1	<1	<1	<1	<1.	---	<0.5
Vinyl chloride		<2	<2.	<2	<2	<2	<2	<2	<2	<2.	<0.5	<1
o-Xylene		11	4	0.4J	<1	<1	<1	<1	0.6J	<1.	<1J	<0.5
m+p-Xylenes		2J	2	0.7J	<2	<1	<1	<1	<2	<1.	<1	<1.0

Results in micrograms per liter (ug/l)
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Table 6
Groundwater Analytical Results - Most Recent Sampling

Hows Corner Superfund Site
Plymouth, Maine

	SITE_ID	LOT15-1	LOT21-11	LOT23	LOT28-1	LOT31	LOT31	LOT35	LOT41
	DATE	9/8/2003	12/16/1999	4/15/2003	4/16/2003	9/13/2004	9/13/2004	12/15/1999	12/17/1999
	ID	WS/HC(15-1)GORDON	LOT21-11	LOT23	LOT28-1	WS/HC(31)GHOPKINS	WS/HC(31)GHOPKINSDUP	LOT35	LOT41
Parameter	RESULT TYPE	Primary	Primary	Primary	Primary	Primary	Duplicate	Primary	Primary
Acetone		---	---	<5	<5	---	---	---	---
Benzene		---	<0.5	<1	<1	---	---	<0.5	<0.5
2-Butanone		---	---	<5	<5	---	---	---	---
n-Butylbenzene		---	<0.5	<1	<1	---	---	<0.5	<0.5
sec-Butylbenzene		---	<0.5	<1	<1	---	---	<0.5	<0.5
Carbon disulfide		---	---	<1	<1	---	---	---	---
Chlorobenzene		---	<0.5	<1	<1	---	---	<0.5	<0.5
Chloroform		<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5
Chloromethane		---	<1	<2	<2	---	---	<1	<1
1,2-Dichlorobenzene		---	<0.5	<1	<1	---	---	<0.5	<0.5
1,3-Dichlorobenzene		---	<0.5	<1	<1	---	---	<0.5	<0.5
1,4-Dichlorobenzene		---	<0.5	<1	<1	---	---	<0.5	<0.5
1,1-Dichloroethane		---	<0.5	<1	<1	---	---	<0.5	<0.5
1,1-Dichloroethene		<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5
cis-1,2-Dichloroethene		<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5
trans-1,2-Dichloroethene		<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5
Diethyl ether		---	---	<1	<1J	---	---	---	---
Ethylbenzene		---	<0.5	<1	<1	---	---	<0.5	<0.5
Isopropylbenzene		---	<0.5	<1	<1	---	---	<0.5	<0.5
p-Isopropyltoluene		---	<0.5J	<1	<1	---	---	<0.5	<0.5
Methylene chloride		<0.5J	<2.5J	<1	2	<0.5J	<0.5J	<2.5J	<2.5J
MTBE		---	---	<1	<1	---	---	---	<0.5
Naphthalene		---	<1.0	<1	<1J	---	---	<1.0	<1.0
n-Propylbenzene		---	<0.5	<1	<1	---	---	<0.5	<0.5
1,1,1,2-Tetrachloroethane		---	<0.5	<1	<1	---	---	<0.5	<0.5
Tetrachloroethene		0.71	0.7J	<1	<1	<0.5	<0.5	<0.5	<0.5J
Tetrahydrofuran		---	---	<10	<10	---	---	---	---
Toluene		---	<1.0	<1	<1	---	---	<1.0	<1.0
1,2,3-Trichlorobenzene		---	<1.0	<1J	<1J	---	---	<1.0	<1.0
1,2,4-Trichlorobenzene		<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane		<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5
Trichloroethene		<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5
1,2,4-Trimethylbenzene		---	<0.5	<1	<1	---	---	<0.5	<0.5
1,3,5-Trimethylbenzene		---	<0.5	<1	<1	---	---	<0.5	<0.5
Vinyl chloride		<0.5	<1	<2	<2	<0.5	<0.5	<1	<1
o-Xylene		<0.5	<0.5	<1	<1	<1	<1	<0.5	<0.5
m+p-Xylenes		<1	<1.0	<1	<1	<1	<1	<1.0	<1.0

Results in micrograms per liter (ug/l)
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Table 7
Detected Parameters
Groundwater Samples
Hows Corner Superfund Site
Plymouth, Maine

Parameter	Units	WELL ID	MW-1B	MW-1B	MW-1B	MW-1B	MW-1B	MW-1B	MW-1B	MW-1B	MW-1B	MW-1B	MW-1B	MW-1B	MW-1B
		SAMPLE DATE	10/21/1999	10/21/1999	10/21/1999	1/6/2000	1/6/2000	1/6/2000	5/23/2000	6/9/2001	1/17/2002	1/17/2002	1/17/2002	1/17/2002	4/17/2003
		SAMPLE ID	MW-1B	DUPE-5	MW-1B	MW-1B	MW-1B	MW-1B DUP	MW-1B	MW-1B	MW-1B(65')	MW-1B(68.2')	MW-1B(71')	MW-1B	MW-1B
		RESULT TYPE	Primary	Duplicate	Duplicate	Primary	Primary	Duplicate	Primary	Primary	Primary	Primary	Primary	Primary	Primary
Total Volatile Organic Compounds															
Acetone	ug/l		<250	<10	<10	---	<100.J	<100.J	<5J	<5	<250J	<7J	<8J	<5	<5
Benzene	ug/l		<120	<5	<5	---	<20.	<20.	<1	<1	<50	<1	<1	<1	<1
2-Butanone	ug/l		<250	<10	<10	---	<100.	<100.	<5J	<5	<250J	<5J	<5J	<5	<5
n-Butylbenzene	ug/l		<120	<5	<5	---	<20.	<20.	<1	<1	<50	<1	<1	<1	<1
sec-Butylbenzene	ug/l		<120	<5	<5	---	<20.	<20.	<1	<1	<50	<1	<1	<1	<1
Carbon disulfide	ug/l		<120	<5	<5	---	<40.	<40.	<2.0	<2.0	<100	<2.0	<2.0	<2.0	<1
Carbon tetrachloride	ug/l		<120	<5	<5	---	<20.	<20.	<1	31J	<50	<1	<1	<1	<1
Chlorobenzene	ug/l		<120	<5	<5	---	<20.	<20.	<1	<1	<50	<1	<1	<1	<1
Chloroethane	ug/l		<120	<5	<5	---	<40.	<40.	<2	<2	<100	<2	<2	<2	<2
Chloroform	ug/l		<120	<5	<5	---	<20.	<20.	<1	<1	<50	<1	<1	<1	<1
Chloromethane	ug/l		<120	<5	<5	---	<40.	<40.	<2	<2	<100	<2	<2	<2	<2
2-Chlorotoluene	ug/l		<120	<5	<5	---	<20.	<20.	<1	<1	<50	<1	<1	<1	<1
4-Chlorotoluene	ug/l		<120	<5	<5	---	<20.	<20.	<1	<1	<50	<1	<1	<1	<1
Dibromochloromethane	ug/l		<120	<5	<5	---	<20.	<20.	<1	<1	<50	<1	<1	<1	<1
1,2-Dichlorobenzene	ug/l		<120	<5	<5	---	<10.	<10.	<1	<1	<50	<1	0.5J	<1	<1
1,3-Dichlorobenzene	ug/l		<120	<5	<5	---	<10.	<10.	<1	<1	<50	<1	<1	<1	<1
1,4-Dichlorobenzene	ug/l		<120	<5	<5	---	<10.	<10.	<1	<1	<50	<1	<1	<1	<1
1,1-Dichloroethane	ug/l		<120	<5	<5	---	<20.J	<20.	0.5J	1	<50	2	2	2	<1
1,1-Dichloroethene	ug/l		<120	4J	4J	---	<20.	<20.	2	7	<50	7	7	7	3
1,2-Dichloroethene	ug/l		---	---	---	---	---	---	---	---	---	---	---	---	---
cis-1,2-Dichloroethene	ug/l		<120	11	11	---	<20.	<20.	4	22	38J	37	38	39	5
trans-1,2-Dichloroethene	ug/l		<120	<5	<5	---	<20.	<20.	<1	<1	<50	0.6J	0.7J	0.7J	<1
Diethyl ether	ug/l		<120	<5	<5	---	<40.	<40.	<2	<2	<100	<2	<2	<2	<1J
Ethylbenzene	ug/l		<120	<5	<5	---	<20.	<20.	<1	<1	<50	<1	<1	<1	<1
Hexachlorobutadiene	ug/l		<120	<5	<5	---	<10.	<10.	<1	<1	<50	<1	<1	<1	<1
Isopropylbenzene	ug/l		<120	<5	<5	---	<20.	<20.	<1	<1	<50	<1	<1	<1	<1
p-Isopropyltoluene	ug/l		<120	<5	<5	---	<20.	<20.	<1	<1	<50	<1	<1	<1	<1
Methylene chloride	ug/l		<120	<5	<5	---	<20.	<20.	<1J	<1	<79J	<1J	<1	<1J	<2U
MTBE	ug/l		<120	<5	<5	---	<20.	<20.	<1	<1	<50	<1	<1	<1	<1
Naphthalene	ug/l		<120	<5	<5	---	<10.	<10.	<1	<1J	<50	<1	<1	<1	<1J
n-Propylbenzene	ug/l		<120	<5	<5	---	<20.	<20.	<1	<1	<50	<1	<1	<1	<1
1,1,1,2-Tetrachloroethane	ug/l		<120	<5	<5	---	<20.	<20.	<1	<1	<50	<1	0.5J	0.5J	<1
Tetrachloroethene	ug/l		1800J	2700	2700	---	2300	3100	2000	9500J	5300	4700	4800	3800	1300J
Tetrahydrofuran	ug/l		<250	<10	<10	---	<200.J	<200.J	<10	<10	<500	<10	<10	<10	<10
Toluene	ug/l		<120	<5	<5	---	<20.	<20.	<1	<1	<50	<1	<1	<1	<1
1,2,3-Trichlorobenzene	ug/l		<120	<5	<5	---	<20.	<20.	<1	<1J	<50	<1	<2	<1	<1J
1,2,4-Trichlorobenzene	ug/l		<120	<5	<5	---	<10.	<10.	<1	<1	<50	1	1	1	<1
1,3,5-Trichlorobenzene	ug/l		<120	<5	<5	---	<20.	<20.	<1	<1	<50	<1	<1	<1	<1
1,1,1-Trichloroethane	ug/l		66J	96J	96J	---	100	130	65	350	210	180	180	180	72
1,1,2-Trichloroethane	ug/l		<120	<5	<5	---	<20.	<20.	<1	<1	<50	<1	<1	<1	<1
Trichloroethene	ug/l		87J	130J	130J	---	76	90	64	870	550	570	420	400	43
Trichlorofluoromethane	ug/l		<120	<5	<5	---	<40.	<40.	<2J	<2	<100	<2	<2	<2	<2
1,2,4-Trimethylbenzene	ug/l		<120	<5	<5	---	<20.	<20.	<1	<1	<50	<1	<1	<1	<1
1,3,5-Trimethylbenzene	ug/l		<120	<5	<5	---	<20.	<20.	<1	<1	<50	<1	<1	<1	<1
Vinyl chloride	ug/l		<50	<2	<2	---	<40.	<40.	<2	<2	<100	<2	<2	<2	<2
o-Xylene	ug/l		<120	<5	<5	---	<20.	<20.	<1	<1	<50	<1	<1	<1	<1
m+p-Xylenes	ug/l		<120	<5	<5	---	<20.	<20.	<1	<1	<50	<1	<1	<1	<1

Table 7
Detected Parameters
Groundwater Samples
Hows Corner Superfund Site
Plymouth, Maine

Parameter	Units	WELL ID	MW-1B	MW-1B	MW-1B	MW-1B	MW-1B	MW-1B	MW-1B	MW-1B	MW-1B	MW-1B	MW-1B	MW-1B	MW-1B
		SAMPLE DATE	10/21/1999	10/21/1999	10/21/1999	1/6/2000	1/6/2000	1/6/2000	5/23/2000	6/9/2001	1/17/2002	1/17/2002	1/17/2002	1/17/2002	4/17/2003
		SAMPLE ID	MW-1B	DUPE-5	MW-1B	MW-1B	MW-1B	MW-1B DUP	MW-1B	MW-1B	MW-1B(65')	MW-1B(68.2')	MW-1B(71')	MW-1B	MW-1B
		RESULT TYPE	Primary	Duplicate	Duplicate	Primary	Primary	Duplicate	Primary	Primary	Primary	Primary	Primary	Primary	Primary
Dissolved Volatile Organic Compounds															
Tetrachloroethylene	ug/l		—	—	—	—	—	—	—	—	—	—	—	—	—
Semi-Volatile Organic Compounds															
bis(2-Ethylhexyl)phthalate	ug/l		—	—	—	—	<10.	<10.	<10	—	—	—	—	—	—
Phenol	ug/l		—	—	—	—	<10.	<10.	<10	—	—	—	—	—	—
PCBs															
Aroclor 1260	ug/l		—	—	—	—	<0.10	<0.10	—	—	—	—	—	—	—
Dichlorobiphenyl	ng/l		—	—	—	—	—	—	—	—	—	—	—	—	—
Heptachlorobiphenyl	ng/l		—	—	—	—	—	—	—	—	—	—	—	—	—
Hexachlorobiphenyl	ng/l		—	—	—	—	—	—	—	—	—	—	—	—	—
Nonachlorobiphenyl	ng/l		—	—	—	—	—	—	—	—	—	—	—	—	—
Octachlorobiphenyl	ng/l		—	—	—	—	—	—	—	—	—	—	—	—	—
Pentachlorobiphenyl	ng/l		—	—	—	—	—	—	—	—	—	—	—	—	—
Tetrachlorobiphenyl	ng/l		—	—	—	—	—	—	—	—	—	—	—	—	—
Trichlorobiphenyl	ng/l		—	—	—	—	—	—	—	—	—	—	—	—	—
Pesticides															
Dieldrin	ug/l		—	—	—	—	—	—	—	—	—	—	—	—	<0.1
Total Inorganics															
Aluminum	ug/l		—	—	—	—	<100	<100	<100	—	—	—	—	—	—
Antimony	ug/l		—	—	—	—	<8.0	<8.0	<8.0	—	—	—	—	—	—
Arsenic	ug/l		—	—	—	—	<8.0	<8.0	<8.0	—	—	—	—	—	<1.80J
Barium	ug/l		—	—	—	—	<5.0	<5.0	<5.0	—	—	—	—	—	—
Beryllium	ug/l		—	—	—	—	<5.0	<5.0	<5.0	—	—	—	—	—	—
Cadmium	ug/l		—	—	—	—	<10	<10	<10	—	—	—	—	—	—
Calcium	ug/l		—	—	—	—	16700	16800	14900	—	—	—	—	—	—
Chromium	ug/l		—	—	—	—	<15	<15	<15	—	—	—	—	—	—
Cobalt	ug/l		—	—	—	—	<30	3.0J	<30	—	—	—	—	—	—
Copper	ug/l		—	—	—	—	<25	<25	<25	—	—	—	—	—	—
Iron	ug/l		—	—	—	—	<50	<50	<50	—	—	—	—	—	—
Lead	ug/l		—	—	—	—	<5.0	<5.0	<5.0	—	—	—	—	—	—
Magnesium	ug/l		—	—	—	—	5000	4810	4230	—	—	—	—	—	—
Manganese	ug/l		—	—	—	—	<5.0	<5.0	<5.0	—	—	—	—	—	12.1
Mercury	ug/l		—	—	—	—	<0.20	<0.20	<0.20	—	—	—	—	—	—
Nickel	ug/l		—	—	—	—	<40	<40	<40	—	—	—	—	—	—
Potassium	ug/l		—	—	—	—	<1000	<1000	<1000	—	—	—	—	—	—
Selenium	ug/l		—	—	—	—	<10	<10	<10	—	—	—	—	—	—
Silver	ug/l		—	—	—	—	<15	<15	<15	—	—	—	—	—	—
Sodium	ug/l		—	—	—	—	2370	2250	2010	—	—	—	—	—	—
Thallium	ug/l		—	—	—	—	<15	<15	<15	—	—	—	—	—	—
Vanadium	ug/l		—	—	—	—	<25	<25	<25	—	—	—	—	—	—
Zinc	ug/l		—	—	—	—	<25	<25	<25	—	—	—	—	—	—
Dissolved Inorganics															
Aluminum	ug/l		—	—	—	—	—	—	—	—	—	—	—	—	—
Arsenic	ug/l		—	—	—	—	—	—	—	—	—	—	—	—	—
Calcium	ug/l		—	—	—	—	—	—	—	—	—	—	—	—	—
Chromium	ug/l		—	—	—	—	—	—	—	—	—	—	—	—	—
Iron	ug/l		—	—	—	—	—	—	—	—	—	—	—	—	—
Lead	ug/l		—	—	—	—	—	—	—	—	—	—	—	—	—
Magnesium	ug/l		—	—	—	—	—	—	—	—	—	—	—	—	—
Manganese	ug/l		—	—	—	—	—	—	—	—	—	—	—	—	—
Mercury	ug/l		—	—	—	—	—	—	—	—	—	—	—	—	—
Sodium	ug/l		—	—	—	—	—	—	—	—	—	—	—	—	—

Table 7
Detected Parameters
Groundwater Samples
Hows Corner Superfund Site
Plymouth, Maine

Parameter	Units	WELL ID	MW-1B	MW-1B	MW-1B	MW-1B	MW-1B	MW-1B	MW-1B	MW-1B	MW-1B	MW-1B	MW-1B	MW-1B	MW-1B
		SAMPLE DATE	10/21/1999	10/21/1999	10/21/1999	1/6/2000	1/6/2000	1/6/2000	5/23/2000	6/9/2001	1/17/2002	1/17/2002	1/17/2002	1/17/2002	4/17/2003
		SAMPLE ID	MW-1B	DUPE-5	MW-1B	MW-1B	MW-1B	MW-1B DUP	MW-1B	MW-1B	MW-1B(65')	MW-1B(68.2')	MW-1B(71')	MW-1B	MW-1B
		RESULT TYPE	Primary	Duplicate	Duplicate	Primary	Primary	Duplicate	Primary	Primary	Primary	Primary	Primary	Primary	Primary
Petroleum Hydrocarbons															
TPH	ug/l		—	---	—	—	—	---	---	---	---	---	---	—	—
Water Quality Parameters															
Alkalinity (as CaCO3)	mg/l		—	—	—	—	63	63	—	—	—	—	—	—	---
Bicarbonate (as CaCO3)	mg/l		—	---	—	—	—	—	---	---	---	—	—	---	---
Chloride	mg/l		—	---	—	—	2.1	2.1	---	—	—	—	—	---	—
Dissolved oxygen	mg/l		—	—	---	0.27	---	---	---	---	---	---	---	—	—
eH	mv		—	—	—	126.1	—	—	—	—	—	—	—	—	—
Ferric iron	mg/l		---	---	---	---	<0.1	<0.1	---	—	—	—	—	---	---
Ferrous iron	mg/l		—	---	---	—	<0.10	<0.10	---	—	---	---	---	---	---
Methane	mg/l		—	—	—	—	<0.010	<0.010	—	—	—	—	—	—	—
Nitrate (as N)	mg/l		---	---	—	—	0.061	0.081	—	—	—	—	—	—	—
pH			---	---	---	6.67	—	—	—	—	---	---	---	---	---
Residue, filterable	mg/l		—	—	—	—	—	—	—	—	—	---	---	---	---
Specific conductivity	umhos/cm		—	---	---	115	—	—	—	—	—	—	—	—	—
Sulfate	mg/l		—	---	---	—	5.5	5	—	—	---	---	---	---	---
Sulfide	mg/l		—	—	—	—	<4.0	<4.0	---	---	---	---	—	—	---
Temperature	cent		—	---	---	7.6	—	—	—	—	—	—	—	—	—
Total organic carbon	mg/l		—	—	---	---	3.2	3	—	---	—	—	---	---	---
Turbidity	ntu		—	—	—	1.88	—	---	---	---	—	—	—	—	—

< = not detected at reporting limit
--- = not analyzed
B = estimated (inorganics)
E = estimated
J = estimated
R = rejected
U = revised to non-detected

Table 7
Detected Parameters
Groundwater Samples
Hows Corner Superfund Site
Plymouth, Maine

Parameter	Units	MW-1B 9/9/2004 MW-1B Primary	MW-2DB 8/5/1999 MW-2DB Primary	MW-2DB 1/4/2000 MW-2DB Primary	MW-2DB 1/4/2000 MW-2DB Primary	MW-2DB 9/9/2004 MW-2DB Primary	MW-2DDB 8/5/1999 MW-2DDB Primary	MW-2DDB 1/4/2000 MW-2DDB Primary	MW-2DDB 1/4/2000 MW-2DDB Primary	MW-2IB 8/5/1999 MW-2IB Primary	MW-2IB 1/4/2000 MW-2IB Primary	MW-2IB 1/4/2000 MW-2IB Primary	MW-2IB 1/4/2000 MW-2IB DUP Duplicate	MW-2IB 5/25/2000 MW-2IB Primary
Total Volatile Organic Compounds														
Acetone	ug/l	10	<10	—	<5.J	<5	103	—	20J	11	—	<5J	—	<5
Benzene	ug/l	<1	2	—	<1.	0.6J	<2	—	<1.	<2	—	<1	—	<1
2-Butanone	ug/l	<5	<10	—	<5.	<5	<10	—	7	<10	—	<5	—	<5
n-Butylbenzene	ug/l	<1	<2	—	2	2	<2	—	<1.	<2	—	2	—	4
sec-Butylbenzene	ug/l	<1	1J	—	2	1	<2	—	<1.	<2	—	0.6J	—	1
Carbon disulfide	ug/l	<1	<2	—	<2.	<1	<2	—	<2.	<2	—	<2.0	—	<2.0J
Carbon tetrachloride	ug/l	<1	<2	—	<1.	<1	<2	—	<1.	<2	—	<1	—	<1
Chlorobenzene	ug/l	<1	3	—	1	2	<2	—	<1.	1J	—	<1	—	0.5J
Chloroethane	ug/l	<2	<2	—	<2.J	<2	<2	—	<2.	<2	—	<2J	—	<2
Chloroform	ug/l	0.1J	<2	—	<1.	<1	<2	—	<1.	<2	—	<1	—	<1
Chloromethane	ug/l	<2	<2	—	<2.	<2	<2	—	<2.	<2	—	<2	—	<2
2-Chlorotoluene	ug/l	<1	<2	—	<1.	<1	<2	—	<1.	<2	—	<1	—	<1
4-Chlorotoluene	ug/l	<1	<2	—	<1.	<1	<2	—	<1.	<2	—	<1	—	<1
Dibromochloromethane	ug/l	<1	<2	—	2	<1	<2	—	<1.	<2	—	<1	—	<1
1,2-Dichlorobenzene	ug/l	0.3J	5	—	3	4	<2	—	0.5J	3	—	2	—	1
1,3-Dichlorobenzene	ug/l	<1	<2	—	0.9J	0.9J	<2	—	0.5J	<2	—	0.8J	—	0.7J
1,4-Dichlorobenzene	ug/l	<1	6	—	4	5	<2	—	0.7J	5	—	3	—	3
1,1-Dichloroethane	ug/l	1	18	—	7	7	15	—	24	10	—	4	—	1
1,1-Dichloroethene	ug/l	3	26	—	15	12	3	—	9	7	—	4	—	1
1,2-Dichloroethene	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—
cis-1,2-Dichloroethene	ug/l	18	60	—	87	190J	<2	—	3	25	—	50	—	24
trans-1,2-Dichloroethene	ug/l	0.3J	1J	—	2	4	<2	—	1	1J	—	2	—	0.7J
Diethyl ether	ug/l	<1	<2	—	<2.	<1	<2	—	<2.	<2	—	<2	—	<2
Ethylbenzene	ug/l	<1	12	—	14	12	<2	—	1	11	—	5	—	7
Hexachlorobutadiene	ug/l	<1	<2	—	<1.	<1J	<2	—	<1.	<2	—	<1	—	<1J
Isopropylbenzene	ug/l	<1	8	—	9	6	<2	—	<1.	2	—	2	—	3
p-Isopropyltoluene	ug/l	<1	2	—	0.6J	3	<2	—	<1.	2	—	0.6J	—	0.9J
Methylene chloride	ug/l	<1	<5	—	<1J	<1	<5	—	<1.	<5	—	<1	—	<1J
MTBE	ug/l	<2	<2	—	<1.	<2	<2	—	<1.	<2	—	<1	—	<1
Naphthalene	ug/l	<1	18	—	12	9J	<2	—	0.5J	3	—	2	—	3
n-Propylbenzene	ug/l	<1	5	—	8	8	<2	—	<1.	4	—	4	—	8
1,1,1,2-Tetrachloroethane	ug/l	0.2J	<2	—	<1.	0.4J	<2	—	<1.	<2	—	<1	—	<1
Tetrachloroethene	ug/l	2400	13100	—	24000	18000	1380	—	2400	6420	—	15000	—	9600
Tetrahydrofuran	ug/l	<10	<10	—	<10J	<10	<10	—	<10.J	<10	—	<10J	—	<10
Toluene	ug/l	<1	<2	—	0.6	0.3J	<2	—	<1.	<2	—	<1	—	<1
1,2,3-Trichlorobenzene	ug/l	0.3J	60	—	41	44J	9	—	17	44	—	43	—	40
1,2,4-Trichlorobenzene	ug/l	<1	<400	—	150	160	28	—	53	<400	—	120	—	110
1,3,5-Trichlorobenzene	ug/l	<1	—	—	<1.	<1	—	—	<1.	—	—	<1	—	<1
1,1,1-Trichloroethane	ug/l	88	743	—	590	300	59	—	100	268J	—	81	—	81
1,1,2-Trichloroethane	ug/l	<1	1J	—	<1.	<1	<2	—	<1.	<2	—	<1	—	<1
Trichloroethene	ug/l	140	846	—	2000	4500	15	—	58	7250	—	6600	—	1700
Trichlorofluoromethane	ug/l	<2	<2	—	<2.J	<2	<2	—	<2.	<2	—	<2J	—	<2
1,2,4-Trimethylbenzene	ug/l	<1	7	—	10	4	<2	—	2	8	—	7	—	14
1,3,5-Trimethylbenzene	ug/l	<1	5	—	6	5	<2	—	0.8J	7	—	7	—	11
Vinyl chloride	ug/l	<2	<2	—	<2.	<2	<2	—	<2.	<2	—	<2	—	<2
o-Xylene	ug/l	<1	21	—	52	11	1J	—	4	8	—	2	—	4
m+p-Xylenes	ug/l	<2	3	—	3	2J	1J	—	2	4	—	3	—	3

Table 7
Detected Parameters
Groundwater Samples
Hows Corner Superfund Site
Plymouth, Maine

Parameter	Units	MW-1B 9/9/2004 MW-1B Primary	MW-2DB 8/5/1999 MW-2DB Primary	MW-2DB 1/4/2000 MW-2DB Primary	MW-2DB 1/4/2000 MW-2DB Primary	MW-2DB 9/9/2004 MW-2DB Primary	MW-2DDB 8/5/1999 MW-2DDB Primary	MW-2DDB 1/4/2000 MW-2DDB Primary	MW-2DDB 1/4/2000 MW-2DDB Primary	MW-2IB 8/5/1999 MW-2IB Primary	MW-2IB 1/4/2000 MW-2IB Primary	MW-2IB 1/4/2000 MW-2IB Primary	MW-2IB 1/4/2000 MW-2IB DUP Duplicate	MW-2IB 5/25/2000 MW-2IB Primary
Dissolved Volatile Organic Compound														
Tetrachloroethylene	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---
Semi-Volatile Organic Compounds														
bis(2-Ethylhexyl)phthalate	ug/l	---	---	---	<10	---	---	---	---	---	---	<10	---	<10
Phenol	ug/l	---	---	---	<10	---	---	---	---	---	---	<10	---	<10J
PCBs														
Aroclor 1260	ug/l	---	0.84J	---	0.91	---	119	---	---	46	---	5.8	---	---
Dichlorobiphenyl	ng/l	---	---	---	---	---	---	---	---	---	---	---	---	5.4
Heptachlorobiphenyl	ng/l	---	---	---	---	---	---	---	---	---	---	---	---	1100
Hexachlorobiphenyl	ng/l	---	---	---	---	---	---	---	---	---	---	---	---	1200
Nonachlorobiphenyl	ng/l	---	---	---	---	---	---	---	---	---	---	---	---	8.3
Octachlorobiphenyl	ng/l	---	---	---	---	---	---	---	---	---	---	---	---	180
Pentachlorobiphenyl	ng/l	---	---	---	---	---	---	---	---	---	---	---	---	300
Tetrachlorobiphenyl	ng/l	---	---	---	---	---	---	---	---	---	---	---	---	52
Trichlorobiphenyl	ng/l	---	---	---	---	---	---	---	---	---	---	---	---	12
Pesticides														
Dieldrin	ug/l	---	---	---	---	---	---	---	---	---	---	0.24	---	---
Total Inorganics														
Aluminum	ug/l	---	---	---	<100	---	---	---	---	---	---	<100	---	<100
Antimony	ug/l	---	---	---	<8.0	---	---	---	---	---	---	<8.0	---	<8.0
Arsenic	ug/l	---	---	---	<8.0	---	---	---	---	---	---	<8.0	---	<8.0
Barium	ug/l	---	---	---	<5.0	---	---	---	---	---	---	<5.0	---	<5.0
Beryllium	ug/l	---	---	---	<5.0	---	---	---	---	---	---	<5.0	---	<5.0
Cadmium	ug/l	---	---	---	<10	---	---	---	---	---	---	<10	---	<10
Calcium	ug/l	---	---	---	29000	---	---	---	---	---	---	27700	---	18300
Chromium	ug/l	---	---	---	<15	---	---	---	---	---	---	<15	---	<15
Cobalt	ug/l	---	---	---	1.5	---	---	---	---	---	---	4.8	---	4.5B
Copper	ug/l	---	---	---	<25	---	---	---	---	---	---	<25	---	<25
Iron	ug/l	---	---	---	<50	---	---	---	---	---	---	412	---	438
Lead	ug/l	---	---	---	<5.0	---	---	---	---	---	---	<5.0	---	2.9B
Magnesium	ug/l	---	---	---	13200	---	---	---	---	---	---	10100	---	6770
Manganese	ug/l	---	---	---	1080	---	---	---	---	---	---	2000	---	1680
Mercury	ug/l	---	---	---	0.05	---	---	---	---	---	---	<0.20	---	<0.20
Nickel	ug/l	---	---	---	<40	---	---	---	---	---	---	<40	---	<40
Potassium	ug/l	---	---	---	<1000	---	---	---	---	---	---	407	---	<1000
Selenium	ug/l	---	---	---	<10	---	---	---	---	---	---	<10	---	<10
Silver	ug/l	---	---	---	<15	---	---	---	---	---	---	<15	---	<15
Sodium	ug/l	---	---	---	2800	---	---	---	---	---	---	2460	---	1640
Thallium	ug/l	---	---	---	<15	---	---	---	---	---	---	3.5	---	<15
Vanadium	ug/l	---	---	---	<25	---	---	---	---	---	---	<25	---	<25
Zinc	ug/l	---	---	---	0.87	---	---	---	---	---	---	<25	---	<25
Dissolved Inorganics														
Aluminum	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---
Arsenic	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---
Calcium	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---
Chromium	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---
Lead	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---
Magnesium	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---
Manganese	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---
Mercury	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---
Sodium	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---

Table 7
Detected Parameters
Groundwater Samples
Hows Corner Superfund Site
Plymouth, Maine

Parameter	Units	MW-1B 9/9/2004 MW-1B Primary	MW-2DB 8/5/1999 MW-2DB Primary	MW-2DB 1/4/2000 MW-2DB Primary	MW-2DB 1/4/2000 MW-2DB Primary	MW-2DB 9/9/2004 MW-2DB Primary	MW-2DDB 8/5/1999 MW-2DDB Primary	MW-2DDB 1/4/2000 MW-2DDB Primary	MW-2DDB 1/4/2000 MW-2DDB Primary	MW-2IB 8/5/1999 MW-2IB Primary	MW-2IB 1/4/2000 MW-2IB Primary	MW-2IB 1/4/2000 MW-2IB Primary	MW-2IB 1/4/2000 MW-2IB Duplicate	MW-2IB 5/25/2000 MW-2IB Primary
Petroleum Hydrocarbons														
TPH	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—
Water Quality Parameters														
Alkalinity (as CaCO3)	mg/l	—	—	—	140	—	—	—	—	—	—	120	—	—
Bicarbonate (as CaCO3)	mg/l	—	—	—	—	—	—	—	—	—	—	—	—	—
Chloride	mg/l	—	—	—	3	—	—	—	—	—	—	4.8	—	—
Dissolved oxygen	mg/l	—	—	0.58	—	—	—	15.84	—	—	0.79	—	—	—
eH	mv	—	—	10.1	—	—	—	-51.8	—	—	-52.2	—	—	—
Ferric iron	mg/l	—	—	—	<0.1	—	—	—	—	—	—	<0.1	—	—
Ferrous iron	mg/l	—	—	—	<0.10	—	—	—	—	—	—	0.43	—	—
Methane	mg/l	—	—	—	<0.010	—	—	—	—	—	—	<0.010	<0.010	—
Nitrate (as N)	mg/l	—	—	—	<0.050	—	—	—	—	—	—	<0.050	—	—
pH		—	—	7.25	—	—	—	12.08	—	—	6.84	—	—	—
Residue, filterable	mg/l	—	—	—	—	—	—	—	—	—	—	—	—	—
Specific conductivity	umhos/cm	—	—	254	—	—	—	1231	—	—	206	—	—	—
Sulfate	mg/l	—	—	—	5.5	—	—	—	—	—	—	4.6	—	—
Sulfide	mg/l	—	—	—	<4.0	—	—	—	—	—	—	<2.0	—	—
Temperature	cent	—	—	8.17	—	—	—	5.81	—	—	8.13	—	—	—
Total organic carbon	mg/l	—	—	—	6.6	—	—	—	—	—	—	8.7	—	—
Turbidity	ntu	—	—	0.72	—	—	—	1.32	—	—	3.17	—	—	—

< = not detected at reporting limit
— = not analyzed
B = estimated (inorganics)
E = estimated
J = estimated
R = rejected
U = revised to non-detected

Table 7
Detected Parameters
Groundwater Samples
Hows Corner Superfund Site
Plymouth, Maine

Parameter	Units	MW-2IB 6/10/2001 MW-2IB Primary	MW-2IB 1/18/2002 MW-2IB(20') Primary	MW-2IB 1/18/2002 MW-2IB(23') Primary	MW-2IB 1/18/2002 MW-2IB(26') Primary	MW-2IB 1/18/2002 DUP 7 Duplicate	MW-2IB 1/18/2002 MW-2IB Primary	MW-2IB 4/17/2003 MW-2IB Primary	MW-2IB 4/17/2003 MW-2IB DUP Duplicate	MW-2IB 9/9/2004 MW-2IB Primary	MW-3B 10/22/1999 MW-3B Primary	MW-3B 1/5/2000 MW-3B Primary	MW-3B 1/5/2000 MW-3B Primary	MW-3B 1/5/2000 MW-3B DUP Duplicate	MW-3B 5/23/2000 MW-3B Primary
Total Volatile Organic Compounds															
Acetone	ug/l	<500	<5J	<11J	<5J	<5J	<5	<5	<5	15	<50	—	<5	<5J	<5J
Benzene	ug/l	<100	<1	<1	<1	<1	0.5J	<1J	<1	<1	<25	—	<1	<1	<1
2-Butanone	ug/l	<500	<5J	<5J	<5J	<5J	<5	<5J	<5	<5	<50	—	<5	<5	<5J
n-Butylbenzene	ug/l	<100	<1	<1	<1	<1	<1	<1	<1	<1	<25	—	<1	<1	<1
sec-Butylbenzene	ug/l	<100	<1	<1	<1	<1	<1	<1	<1	<1	<25	—	<1	<1	<1
Carbon disulfide	ug/l	<200	<2.0	<2.0	<2.0	<2.0	<2.0	<1	<1	0.2J	<25	—	<2.0	<2.0	<2.0
Carbon tetrachloride	ug/l	<100	<1	<1	<1	<1	<1	<1J	0.4J	<1	<25	—	<1	<1	<1
Chlorobenzene	ug/l	<100	<1	<1	<1	<1	<1	<1J	<1	0.3J	<25	—	<1	<1	<1
Chloroethane	ug/l	<200	<2	<2	<2	<2	<2	<2J	<2	<2	<25	—	<2	<2	<2
Chloroform	ug/l	<100	<1	<1	<1	<1	<1	<1J	0.4J	<1	<25	—	<1	<1	<1
Chloromethane	ug/l	<200	<2J	<2J	<2J	<2	<2J	<2J	<2	<2	<25	—	<2	<2	<2
2-Chlorotoluene	ug/l	<100	<1	<1	<1	<1	<1	<1J	0.4J	<1	<25	—	<1	<1	<1
4-Chlorotoluene	ug/l	<100	<1	<1	<1	<1	<1	<1J	0.3J	<1	<25	—	<1	<1	<1
Dibromochloromethane	ug/l	<100	<1	<1	<1	<1	<1	<1J	<1	<1	<25	—	<1	<1	<1
1,2-Dichlorobenzene	ug/l	<100	1	2	2	2	2	<1	<1	1	<25	—	<1	<1	<1
1,3-Dichlorobenzene	ug/l	<100	0.8J	0.8J	0.8J	0.9J	0.8J	0.7J	0.9J	0.6J	<25	—	<1	<1	<1
1,4-Dichlorobenzene	ug/l	<100	4	4	4	4	4	0.7J	1	3	<25	—	<1	<1	<1
1,1-Dichloroethane	ug/l	<100	4	5	6	6	7	2	3	2	<25	—	<1	<1	<1
1,1-Dichloroethene	ug/l	<100	7	8	7	8	10	2J	3	1	<25	—	4	4	2
1,2-Dichloroethene	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
cis-1,2-Dichloroethene	ug/l	<100	150	100	96	98	81	270	220	1000	<25	—	2	2	1
trans-1,2-Dichloroethene	ug/l	<100	2	2	2	2	1	5J	4	12	<25	—	<1	<1	<1
Diethyl ether	ug/l	<200	<2	<2	<2	<2	<2	<1J	<1J	<1	<25	—	<2	<2	<2
Ethylbenzene	ug/l	<100	<1	<1	0.5J	0.5J	0.5J	3J	3	1	<25	—	<1	<1	<1
Hexachlorobutadiene	ug/l	<100	<1	<1	<1	<1	<1	<1	<1	<1J	<25	—	<1	<1	<1
Isopropylbenzene	ug/l	<100	<1	<1	<1	<1	<1	0.5J	0.8J	1	<25	—	<1	<1	<1
p-Isopropyltoluene	ug/l	<100	<1	<1	0.5J	0.5J	<1	<1J	<1	1	<25	—	<1	<1	<1.
Methylene chloride	ug/l	<100J	<1J	<1	<1	<1	<1J	<2U	<2U	<1	<25	—	<3	<1	<1J
MTBE	ug/l	<100	<1	<1	<1	<1	<1	<1	<1	<2	<25	—	<1	<1	<1
Naphthalene	ug/l	<100J	<1	<1	<1	<1	<1	<1UJ	<1UJ	1J	<25	—	<1	<1	<1
n-Propylbenzene	ug/l	<100	<1	<1	<1	<1	<1	0.7J	1	0.8J	<25	—	<1	<1	<1
1,1,1,2-Tetrachloroethane	ug/l	<100	<1	<1	<1	<1	<1	<1J	<1	<1	<25	—	<1	<1	<1
Tetrachloroethene	ug/l	18000J	9400	10000	9600	9600	9700	9300	8700J	5800	470	—	830J	840J	330
Tetrahydrofuran	ug/l	<1000	<10	<10	<10	<10	<10	<10J	<10	<10	<50	—	<10	<10J	<10
Toluene	ug/l	<100	<1	<1	<1	<1	<1	<1U	<1U	<1	<25	—	<1	<1	<1
1,2,3-Trichlorobenzene	ug/l	<100J	34	32	40	31	31	31J	39J	40J	<25	—	<1	<1	<1
1,2,4-Trichlorobenzene	ug/l	<100J	100	92	140	100	100	98	120	96	<25	—	<1	<1	<1
1,3,5-Trichlorobenzene	ug/l	<100	<1	<1	<1	<1	<1	<1	<1	<1	<25	—	<1	<1	<1
1,1,1-Trichloroethane	ug/l	220	120	160	160	170	190	46J	51	30	25J	—	33	33	17
1,1,2-Trichloroethane	ug/l	<100	<1	<1	<1	<1	<1	<1J	<1	<1	<25	—	<1	<1	<1
Trichloroethene	ug/l	4400	4200	4200	4500	4700	4200	4800	4500J	4800	<25	—	12	12	7
Trichlorofluoromethane	ug/l	<200	<2	<2	<2	<2	<2	<2J	0.7J	<2	<25	—	<2	<2	<2J
1,2,4-Trimethylbenzene	ug/l	<100	<1	<1	0.6J	0.7J	<1	0.8J	1	1	<25	—	<1	<1	<1
1,3,5-Trimethylbenzene	ug/l	<100	<1	<1	2	2	0.6J	0.3J	0.9J	1.0J	<25	—	<1	<1	<1
Vinyl chloride	ug/l	<200	<2	<2	<2	<2	<2	0.3J	0.6J	<2	<10	—	<2	<2	<2
o-Xylene	ug/l	<100	1J	1	2	3	2	1J	2	0.4J	<25	—	<1	<1	<1
m+p-Xylenes	ug/l	<100	<1	<1	<1	<1	<1	<1J	<1	0.7J	<25	—	<1	<1	<1

Table 7
Detected Parameters
Groundwater Samples
Hows Corner Superfund Site
Plymouth, Maine

Parameter	Units	MW-2IB	MW-2IB	MW-2IB	MW-2IB	MW-2IB	MW-2IB	MW-2IB	MW-2IB	MW-2IB	MW-3B	MW-3B	MW-3B	MW-3B	MW-3B
		6/10/2001	1/18/2002	1/18/2002	1/18/2002	1/18/2002	1/18/2002	4/17/2003	4/17/2003	9/9/2004	10/22/1999	1/5/2000	1/5/2000	1/5/2000	5/23/2000
		MW-2IB	MW-2IB(20')	MW-2IB(23')	MW-2IB(26')	DUP 7	MW-2IB	MW-2IB	MW-2IB DUP	MW-2IB	MW-3B	MW-3B	MW-3B	MW-3B DUP	MW-3B
		Primary	Primary	Primary	Primary	Duplicate	Primary	Primary	Duplicate	Primary	Primary	Primary	Primary	Duplicate	Primary
Dissolved Volatile Organic Compound															
Tetrachloroethylene	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Semi-Volatile Organic Compounds															
bis(2-Ethylhexyl)phthalate	ug/l	---	---	---	---	---	---	---	---	---	---	---	<10	<10	<10
Phenol	ug/l	---	---	---	---	---	---	---	---	---	---	---	<10	<10	<10
PCBs															
Aroclor 1260	ug/l	1.5C	---	---	---	---	---	---	---	---	---	---	<0.1	<0.1	---
Dichlorobiphenyl	ng/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Heptachlorobiphenyl	ng/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Hexachlorobiphenyl	ng/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Nonachlorobiphenyl	ng/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Octachlorobiphenyl	ng/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Pentachlorobiphenyl	ng/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Tetrachlorobiphenyl	ng/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Trichlorobiphenyl	ng/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Pesticides															
Dieldrin	ug/l	---	---	---	---	---	---	0.077J	0.066J	---	---	---	---	---	---
Total Inorganics															
Aluminum	ug/l	29.54	---	---	---	---	---	---	---	---	---	---	<100	<100	<100
Antimony	ug/l	3.65	---	---	---	---	---	---	---	---	---	---	<8.0	<8.0	<8.0
Arsenic	ug/l	2.53	---	---	---	---	---	<1.80J	<1.80J	---	---	---	<8.0	<8.0	6.7B
Barium	ug/l	<2.2	---	---	---	---	---	---	---	---	---	---	17.8	16.7	18
Beryllium	ug/l	0.18	---	---	---	---	---	---	---	---	---	---	<5.0	<5.0	<5.0
Cadmium	ug/l	<0.37	---	---	---	---	---	---	---	---	---	---	<10	<10	<10
Calcium	ug/l	22300	---	---	---	---	---	---	---	---	---	---	49000	47000	49100
Chromium	ug/l	0.57	---	---	---	---	---	---	---	---	---	---	<15	<15	<15
Cobalt	ug/l	3.9	---	---	---	---	---	---	---	---	---	---	<30	<30	3.6B
Copper	ug/l	0.84	---	---	---	---	---	---	---	---	---	---	<25	<25	<25
Iron	ug/l	378	---	---	---	---	---	---	---	---	---	---	<50	<50	<50
Lead	ug/l	1.48	---	---	---	---	---	---	---	---	---	---	<5.0	<5.0	<5.0
Magnesium	ug/l	7470	---	---	---	---	---	---	---	---	---	---	17400	16600	19000
Manganese	ug/l	1560	---	---	---	---	---	1440	1400	---	---	---	214	198	269
Mercury	ug/l	0.03	---	---	---	---	---	---	---	---	---	---	<0.20	<0.20	<0.20
Nickel	ug/l	4.4	---	---	---	---	---	---	---	---	---	---	<40	<40	<40
Potassium	ug/l	280	---	---	---	---	---	---	---	---	---	---	1140	<1000	1160
Selenium	ug/l	3.04	---	---	---	---	---	---	---	---	---	---	<10	<10	<10
Silver	ug/l	1.03	---	---	---	---	---	---	---	---	---	---	<15	<15	<15
Sodium	ug/l	2270	---	---	---	---	---	---	---	---	---	---	9150	8820	9700
Thallium	ug/l	4.74	---	---	---	---	---	---	---	---	---	---	<15	<15	<15
Vanadium	ug/l	0.52	---	---	---	---	---	---	---	---	---	---	<25	<25	<25
Zinc	ug/l	0.47	---	---	---	---	---	---	---	---	---	---	<25	<25	<25
Dissolved Inorganics															
Aluminum	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Arsenic	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Calcium	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chromium	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Lead	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Magnesium	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Manganese	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Mercury	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Sodium	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Table 7
Detected Parameters
Groundwater Samples
Hows Corner Superfund Site
Plymouth, Maine

Parameter	Units	MW-2IB 6/10/2001 MW-2IB Primary	MW-2IB 1/18/2002 MW-2IB(20') Primary	MW-2IB 1/18/2002 MW-2IB(23') Primary	MW-2IB 1/18/2002 MW-2IB(26') Primary	MW-2IB 1/18/2002 DUP 7 Duplicate	MW-2IB 1/18/2002 MW-2IB Primary	MW-2IB 4/17/2003 MW-2IB Primary	MW-2IB 4/17/2003 MW-2IB DUP Duplicate	MW-2IB 9/9/2004 MW-2IB Primary	MW-3B 10/22/1999 MW-3B Primary	MW-3B 1/5/2000 MW-3B Primary	MW-3B 1/5/2000 MW-3B Primary	MW-3B 1/5/2000 MW-3B DUP Duplicate	MW-3B 5/23/2000 MW-3B Primary
Petroleum Hydrocarbons															
TPH	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Water Quality Parameters															
Alkalinity (as CaCO3)	mg/l	---	---	---	---	---	---	---	---	---	---	---	180	180	---
Bicarbonate (as CaCO3)	mg/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chloride	mg/l	---	---	---	---	---	---	---	---	---	---	---	21	22	---
Dissolved oxygen	mg/l	---	---	---	---	---	---	---	---	---	---	1.14	---	---	---
eH	mv	---	---	---	---	---	---	---	---	---	---	18	---	---	---
Ferric iron	mg/l	---	---	---	---	---	---	---	---	---	---	---	<0.1	<0.1	---
Ferrous iron	mg/l	---	---	---	---	---	---	---	---	---	---	---	<0.10	<0.10	---
Methane	mg/l	---	---	---	---	---	---	---	---	---	---	---	<0.010	<0.010	---
Nitrate (as N)	mg/l	---	---	---	---	---	---	---	---	---	---	---	1.3	1.2	---
pH		---	---	---	---	---	---	---	---	---	---	6.93	---	---	---
Residue, filterable	mg/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Specific conductivity	umhos/cm	---	---	---	---	---	---	---	---	---	---	369	---	---	---
Sulfate	mg/l	---	---	---	---	---	---	---	---	---	---	---	10	9.6	---
Sulfide	mg/l	---	---	---	---	---	---	---	---	---	---	---	<4.0	<4.0	---
Temperature	cent	---	---	---	---	---	---	---	---	---	---	7.07	---	---	---
Total organic carbon	mg/l	---	---	---	---	---	---	---	---	---	---	---	4.3	1.5	---
Turbidity	ntu	---	---	---	---	---	---	---	---	---	---	1.65	---	---	---

< = not detected at reporting limit
--- = not analyzed
B = estimated (inorganics)
E = estimated
J = estimated
R = rejected
U = revised to non-detected

Table 7
Detected Parameters
Groundwater Samples
Hows Corner Superfund Site
Plymouth, Maine

Parameter	Units	MW-3B 5/23/2000 MW-3B DUP Duplicate	MW-3B 6/9/2001 MW-3B Primary	MW-3B 1/17/2002 MW-3B(61') Primary	MW-3B 1/17/2002 MW-3B(64.5') Primary	MW-3B 1/17/2002 DUP 5 Duplicate	MW-3B 1/17/2002 MW-3B(67') Primary	MW-3B 1/17/2002 MW-3B Primary	MW-3B 4/15/2003 MW-3B Primary	MW-3B 9/8/2004 MW-3B Primary	MW-4O 10/21/1999 MW-4O Primary	MW-4O 12/17/1999 MW-4O Primary	MW-4O 12/17/1999 MW-4O Primary	MW-5B 10/22/1999 MW-5B Primary	MW-5B 1/6/2000 MW-5B Primary	MW-5B 1/6/2000 MW-5B Primary
Total Volatile Organic Compounds																
Acetone	ug/l	<5J	<5	<9J	<14J	<6	<17J	<5J	<5	10	<10	—	<5	18	—	<5J
Benzene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	—	<1	<5	—	<1
2-Butanone	ug/l	<5J	<5	<5J	<5	<5	<5	<5	<5	<5	<10	—	<5	180	—	<5
n-Butylbenzene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	—	<1	<5	—	<1
sec-Butylbenzene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	—	<1	<5	—	<1
Carbon disulfide	ug/l	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<1	<1	<5	—	<2.0	<5	—	<2.0
Carbon tetrachloride	ug/l	<1	9J	<1	<1	<1	<1	<1	<1	<1	<5	—	<1	<5	—	<1
Chlorobenzene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	—	<1	<5	—	<1
Chloroethane	ug/l	<2	<2	<2	<2	<2	<2	<2	<2	<2	<5	—	<2	<5	—	<2J
Chloroform	ug/l	<1	<1	<1	<1	<1	<1	<1	<1	0.1J	<5	—	<1	<5	—	<1
Chloromethane	ug/l	<2	<2	<2	<2	<2	<2	<2	<2	<2	<5	—	<2	<5	—	<2
2-Chlorotoluene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	—	<1	<5	—	<1
4-Chlorotoluene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	—	<1	<5	—	<1
Dibromochloromethane	ug/l	<1	<1	<1	0.7J	<1	<1	<1	<1	<1	<5	—	<1	<5	—	<1
1,2-Dichlorobenzene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	—	<1	<5	—	<1
1,3-Dichlorobenzene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	—	<1	<5	—	<1
1,4-Dichlorobenzene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	—	<1	<5	—	<1
1,1-Dichloroethane	ug/l	<1	<1	<1	1	1	2	<1	<1	<1	<5	—	<1	<5	—	<1
1,1-Dichloroethene	ug/l	2	5	<1	2	1	2	1	1J	2	<5J	—	<1	<5	—	<1
1,2-Dichloroethene	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
cis-1,2-Dichloroethene	ug/l	1	3	4	71	64	100	11	1	2	<5	—	<1	<5	—	<1
trans-1,2-Dichloroethene	ug/l	<1	<1	<1	0.6J	<1	0.9J	<1	<1	<1	<5	—	<1	<5	—	<1
Diethyl ether	ug/l	<2	<2	<2J	<2J	<2	<2	<2	<1	<1	<5	—	<2	<5	—	<2
Ethylbenzene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	—	<1	<5	—	<1
Hexachlorobutadiene	ug/l	<1	<1	<1J	<1J	<1	<1J	<1J	<1	<1	<5	—	<1	<5	—	<1
Isopropylbenzene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	—	<1	<5	—	<1
p-Isopropyltoluene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	—	<1	<5	—	<1
Methylene chloride	ug/l	<1J	<1J	<1J	<1J	<1J	<1J	<1J	<1	<1	<5	—	<1	<5	—	<2
MTBE	ug/l	<1	<1	<1	<1	<1	<1	<1	<1	2	<5	—	<1	<5	—	<1
Naphthalene	ug/l	<1	<1J	<1J	<1J	<1	<1J	<1J	<1	<1	<5	—	<1	<5	—	<1
n-Propylbenzene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	—	<1	<5	—	<1
1,1,1,2-Tetrachloroethane	ug/l	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	—	<1	<5	—	<1
Tetrachloroethene	ug/l	250J	1800J	110J	54J	44	8J	90J	130	380	<5	—	0.6J	<5	—	<1
Tetrahydrofuran	ug/l	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	—	<10	13000	—	340J
Toluene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	—	<1	<5	—	<1
1,2,3-Trichlorobenzene	ug/l	<1	<1J	<1J	<1J	<1	<1J	<1J	<1J	<1	<5	—	<1	<5	—	<1
1,2,4-Trichlorobenzene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	—	<1	<5	—	<1
1,3,5-Trichlorobenzene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	—	<1	<5	—	<1
1,1,1-Trichloroethane	ug/l	18	57J	8	10	8	6	8	6	16	<5	—	<1	<5	—	<1
1,1,2-Trichloroethane	ug/l	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	—	<1	<5	—	<1
Trichloroethene	ug/l	7	26	<1	15	13	15	<1	4	15	<5J	—	<1	<5	—	<1
Trichlorofluoromethane	ug/l	<2J	<2	<2	<2	<2	<2	<2	<2	<2	<5	—	<2	<5	—	<2
1,2,4-Trimethylbenzene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	—	<1	<5	—	<1
1,3,5-Trimethylbenzene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	—	<1	<5	—	<1
Vinyl chloride	ug/l	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	—	<2	<2	—	<2
o-Xylene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	—	<1	<5	—	<1
m+p-Xylenes	ug/l	<1	<1	<1	<1	<1	<1	<1	<1	<2	<5	—	<1	<5	—	<1

Table 7
Detected Parameters
Groundwater Samples
Hows Corner Superfund Site
Plymouth, Maine

Parameter	Units	MW-3B 5/23/2000 MW-3B DUP Duplicate	MW-3B 6/9/2001 MW-3B Primary	MW-3B 1/17/2002 MW-3B(61') Primary	MW-3B 1/17/2002 MW-3B(64.5') Primary	MW-3B 1/17/2002 DUP 5 Duplicate	MW-3B 1/17/2002 MW-3B(67') Primary	MW-3B 1/17/2002 MW-3B Primary	MW-3B 4/15/2003 MW-3B Primary	MW-3B 9/8/2004 MW-3B Primary	MW-4O 10/21/1999 MW-4O Primary	MW-4O 12/17/1999 MW-4O Primary	MW-4O 12/17/1999 MW-4O Primary	MW-5B 10/22/1999 MW-5B Primary	MW-5B 1/6/2000 MW-5B Primary	MW-5B 1/6/2000 MW-5B Primary
Dissolved Volatile Organic Compound																
Tetrachloroethylene	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Semi-Volatile Organic Compounds																
bis(2-Ethylhexyl)phthalate	ug/l	<10	---	---	---	---	---	---	---	---	---	---	<10.J	---	---	<10.
Phenol	ug/l	<10	---	---	---	---	---	---	---	---	---	---	<10.J	---	---	<10.J
PCBs																
Aroclor 1260	ug/l	---	---	---	---	---	---	---	---	---	---	---	<0.10	---	---	<0.10
Dichlorobiphenyl	ng/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Heptachlorobiphenyl	ng/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Hexachlorobiphenyl	ng/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Nonachlorobiphenyl	ng/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Octachlorobiphenyl	ng/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Pentachlorobiphenyl	ng/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Tetrachlorobiphenyl	ng/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Trichlorobiphenyl	ng/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Pesticides																
Dieldrin	ug/l	---	---	---	---	---	---	---	<0.1	---	---	---	---	---	---	---
Total Inorganics																
Aluminum	ug/l	<100	---	---	---	---	---	---	---	---	---	---	<100	---	---	<100
Antimony	ug/l	<8.0	---	---	---	---	---	---	---	---	---	---	<8.0	---	---	5.3
Arsenic	ug/l	6.5B	---	---	---	---	---	---	<1.80J	---	---	---	<8.0	---	---	42.5
Barium	ug/l	18.2	---	---	---	---	---	---	---	---	---	---	8.1E	---	---	17.6
Beryllium	ug/l	<5.0	---	---	---	---	---	---	---	---	---	---	<5.0	---	---	<5.0
Cadmium	ug/l	<10	---	---	---	---	---	---	---	---	---	---	<10	---	---	<10
Calcium	ug/l	49700	---	---	---	---	---	---	---	---	---	---	11600	---	---	24100
Chromium	ug/l	<15	---	---	---	---	---	---	---	---	---	---	<15	---	---	<15
Cobalt	ug/l	<30	---	---	---	---	---	---	---	---	---	---	<30	---	---	<3.0
Copper	ug/l	<25	---	---	---	---	---	---	---	---	---	---	<25	---	---	<25
Iron	ug/l	<50	---	---	---	---	---	---	---	---	---	---	<50	---	---	74.1
Lead	ug/l	<5.0	---	---	---	---	---	---	---	---	---	---	1.6J	---	---	<5.0
Magnesium	ug/l	19500	---	---	---	---	---	---	---	---	---	---	3040	---	---	6480
Manganese	ug/l	295	---	---	---	---	---	---	404	---	---	---	<5.0	---	---	311
Mercury	ug/l	<0.20	---	---	---	---	---	---	---	---	---	---	0.04J	---	---	<0.20
Nickel	ug/l	<40	---	---	---	---	---	---	---	---	---	---	<40	---	---	<40
Potassium	ug/l	783B	---	---	---	---	---	---	---	---	---	---	<1000	---	---	<1000
Selenium	ug/l	<10	---	---	---	---	---	---	---	---	---	---	<10	---	---	<10
Silver	ug/l	<15	---	---	---	---	---	---	---	---	---	---	<15	---	---	<15
Sodium	ug/l	9800	---	---	---	---	---	---	---	---	---	---	12700	---	---	81400
Thallium	ug/l	<15	---	---	---	---	---	---	---	---	---	---	<15	---	---	<15
Vanadium	ug/l	<25	---	---	---	---	---	---	---	---	---	---	<25	---	---	<25
Zinc	ug/l	<25	---	---	---	---	---	---	---	---	---	---	10.2J	---	---	<25
Dissolved Inorganics																
Aluminum	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Arsenic	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Calcium	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chromium	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Lead	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Magnesium	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Manganese	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Mercury	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Sodium	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Table 7
Detected Parameters
Groundwater Samples
Hows Corner Superfund Site
Plymouth, Maine

Parameter	Units	MW-3B 5/23/2000 MW-3B DUP Duplicate	MW-3B 6/9/2001 MW-3B Primary	MW-3B 1/17/2002 MW-3B(61') Primary	MW-3B 1/17/2002 MW-3B(64.5') Primary	MW-3B 1/17/2002 DUP 5 Duplicate	MW-3B 1/17/2002 MW-3B(67') Primary	MW-3B 1/17/2002 MW-3B Primary	MW-3B 4/15/2003 MW-3B Primary	MW-3B 9/8/2004 MW-3B Primary	MW-4O 10/21/1999 MW-4O Primary	MW-4O 12/17/1999 MW-4O Primary	MW-4O 12/17/1999 MW-4O Primary	MW-5B 10/22/1999 MW-5B Primary	MW-5B 1/6/2000 MW-5B Primary	MW-5B 1/6/2000 MW-5B Primary
Petroleum Hydrocarbons																
TPH	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Water Quality Parameters																
Alkalinity (as CaCO3)	mg/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Bicarbonate (as CaCO3)	mg/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chloride	mg/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dissolved oxygen	mg/l	---	---	---	---	---	---	---	---	---	---	4.77	---	---	4.92	---
eH	mv	---	---	---	---	---	---	---	---	---	---	191.3	---	---	-72	---
Ferric iron	mg/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ferrous iron	mg/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Methane	mg/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Nitrate (as N)	mg/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
pH		---	---	---	---	---	---	---	---	---	---	6.28	---	---	7.28	---
Residue, filterable	mg/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Specific conductivity	umhos/cm	---	---	---	---	---	---	---	---	---	---	155	---	---	241	---
Sulfate	mg/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Sulfide	mg/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Temperature	cent	---	---	---	---	---	---	---	---	---	---	9.35	---	---	6.63	---
Total organic carbon	mg/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Turbidity	ntu	---	---	---	---	---	---	---	---	---	---	1.92	---	---	2.58	---

< = not detected at reporting limit
--- = not analyzed
B = estimated (inorganics)
E = estimated
J = estimated
R = rejected
U = revised to non-detected

Table 7
Detected Parameters
Groundwater Samples
Hows Corner Superfund Site
Plymouth, Maine

Parameter	Units	MW-6DB 10/21/1999 MW-6 DB Primary	MW-6DB 1/6/2000 MW-6DB Primary	MW-6DB 1/6/2000 MW-6DB Primary	MW-6DB 5/23/2000 MW-6DB Primary	MW-6SB 10/21/1999 MW-6SB Primary	MW-6SB 1/6/2000 MW-6SB Primary	MW-6SB 1/6/2000 MW-6SB Primary	MW-6SB 5/23/2000 MW-6SB Primary	MW-8DB 10/19/1999 MW-8DB Primary	MW-8DB 10/19/1999 DUPE1 Duplicate	MW-8DB 10/19/1999 MW-8DB Duplicate	MW-8DB 12/22/1999 MW-8DB Primary	MW-8DB 12/22/1999 MW-8DB Primary	MW-8DB 12/22/1999 MW-8DB DUP Duplicate	MW-8DB 5/25/2000 MW-8DB Primary
Total Volatile Organic Compounds																
Acetone	ug/l	<10	—	<50.J	<5J	<10	—	<5	<5J	<10	<10	<10	—	<5J	<5J	<5
Benzene	ug/l	<5	—	<10.	<1	<5	—	<1	<1	<5	<5	<5	—	<1	<1	<1
2-Butanone	ug/l	<10	—	<50.	<5J	<10	—	<5	<5	<10	<10	<10	—	<5	<5	<5
n-Butylbenzene	ug/l	<5	—	<10.	<1	<5	—	<1	<1	<5	<5	<5	—	<1	<1	<1
sec-Butylbenzene	ug/l	<5	—	<10.	<1	<5	—	<1	<1	<5	<5	<5	—	<1	<1	<1
Carbon disulfide	ug/l	<5	—	<20.	<2.0	<5	—	<2.0	<2.0	<5	<5	<5	—	<2.0	<2.0	<2.0J
Carbon tetrachloride	ug/l	<5	—	<10.	<1	<5	—	<1	<1	<5	<5	<5	—	<1	<1	<1
Chlorobenzene	ug/l	<5	—	<10.	<1	<5	—	<1	<1	<5	<5	<5	—	<1	<1	<1
Chloroethane	ug/l	<5	—	<20.	<2	<5	—	<2	<2	<5	<5	<5	—	<2	<2	<2
Chloroform	ug/l	<5	—	<10.	<1	<5	—	<1	<1	<5	<5	<5	—	<1	<1	<1
Chloromethane	ug/l	<5	—	<20.	<2	<5	—	<2	<2	<5	<5	<5	—	<2	<2	<2
2-Chlorotoluene	ug/l	<5	—	<10.	<1	<5	—	<1	<1	<5	<5	<5	—	<1	<1	<1
4-Chlorotoluene	ug/l	<5	—	<10.	<1	<5	—	<1	<1	<5	<5	<5	—	<1	<1	<1
Dibromochloromethane	ug/l	<5	—	<10.	<1	<5	—	<1	<1	<5	<5	<5	—	<1	<1	<1
1,2-Dichlorobenzene	ug/l	<5	—	<10.	<1	<5	—	<1	<1	<5	<5	<5	—	<1	<1	<1
1,3-Dichlorobenzene	ug/l	<5	—	<10.	<1	<5	—	<1	<1	<5	<5	<5	—	<1	<1	<1
1,4-Dichlorobenzene	ug/l	<5	—	<10.	<1	<5	—	<1	<1	<5	<5	<5	—	<1	<1	<1
1,1-Dichloroethane	ug/l	<5	—	<10.	<1	<5	—	<1	<1	<5	<5	<5	—	<1J	<1	<1
1,1-Dichloroethene	ug/l	<5	—	<10.	2J	<5J	—	<1	<1	<5	<5	<5	—	<1	<1	<1
1,2-Dichloroethene	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
cis-1,2-Dichloroethene	ug/l	5	—	<10.	4	<5	—	<1	3	<5	<5	<5	—	<1	<1	<1
trans-1,2-Dichloroethene	ug/l	<5	—	<10.	<1	<5	—	<1	<1	<5	<5	<5	—	<1	<1	<1
Diethyl ether	ug/l	<5	—	<20.	<2	<5	—	<2	<2	<5	<5	<5	—	<2	<2	<2
Ethylbenzene	ug/l	<5	—	<10.	<1	<5	—	<1	<1	<5	<5	<5	—	<1	<1	<1
Hexachlorobutadiene	ug/l	<5	—	<10.	<1	<5	—	<1	<1	<5	<5	<5	—	<1	<1	<1J
Isopropylbenzene	ug/l	<5	—	<10.	<1	<5	—	<1	<1	<5	<5	<5	—	<1	<1	<1
p-Isopropyltoluene	ug/l	<5	—	<10.	<1	<5	—	<1	<1	<5	<5	<5	—	<1	<1	<1
Methylene chloride	ug/l	<5	—	<12.	<3J	<5	—	<2	<1J	<5	<5	<5	—	<1	<1	<1J
MTBE	ug/l	<5	—	<10.	<1	<5	—	<1	<1	<5	<5	<5	—	<1	<1	<1
Naphthalene	ug/l	<5	—	<10.	<1	<5	—	<1	<1J	<5	<5	<5	—	<1	<1	<1
n-Propylbenzene	ug/l	<5	—	<10.	<1	<5	—	<1	<1	<5	<5	<5	—	<1	<1	<1
1,1,1,2-Tetrachloroethane	ug/l	<5	—	<10.	<1	<5	—	<1	<1	<5	<5	<5	—	<1	<1	<1
Tetrachloroethene	ug/l	580	—	700	440J	200	—	31	26	3J	4J	4J	—	14	14	14
Tetrahydrofuran	ug/l	<10	—	<100.J	<10	<10	—	<10	<10	<10	<10	<10	—	<10	<10	<10
Toluene	ug/l	<5	—	<10.	<1	<5	—	<1	<1	<5	<5	<5	—	<1	<1	<1
1,2,3-Trichlorobenzene	ug/l	<5	—	<10.	0.6J	<5	—	<1	<1	<5	<5	<5	—	<1	<1	<1
1,2,4-Trichlorobenzene	ug/l	<5	—	<10.	<1	<5	—	<1	<1	<5	<5	<5	—	<1	<1	<1
1,3,5-Trichlorobenzene	ug/l	<5	—	<10.	<1	<5	—	<1	<1	<5	<5	<5	—	<1	<1	<1
1,1,1-Trichloroethane	ug/l	31	—	33	23	8	—	1	0.8J	<5	<5	<5	—	2	2	2
1,1,2-Trichloroethane	ug/l	<5	—	<10.	<1	<5	—	<1	<1	<5	<5	<5	—	<1	<1	<1
Trichloroethene	ug/l	20	—	23	18J	13J	—	2	2	<5	<5	<5	—	<1J	<1	<1
Trichlorofluoromethane	ug/l	<5	—	<20.	<2J	<5	—	<2	<2	<5	<5	<5	—	<2	<2	<2
1,2,4-Trimethylbenzene	ug/l	<5	—	<10.	<1	<5	—	<1	<1	<5	<5	<5	—	<1	<1	<1
1,3,5-Trimethylbenzene	ug/l	<5	—	<10.	<1	<5	—	<1	<1	<5	<5	<5	—	<1	<1	<1
Vinyl chloride	ug/l	<2	—	<20.	<2	<2	—	<2	<2	<2	<2	<2	—	<2	<2	<2
o-Xylene	ug/l	<5	—	<10.	<1	<5	—	<1	<1	<5	<5	<5	—	<1	<1	<1
m+p-Xylenes	ug/l	<5	—	<10.	<1	<5	—	<1	<1	<5	<5	<5	—	<1	<1	<1

Table 7
Detected Parameters
Groundwater Samples
Hows Corner Superfund Site
Plymouth, Maine

Parameter	Units	MW-6DB 10/21/1999 MW-6 DB Primary	MW-6DB 1/6/2000 MW-6DB Primary	MW-6DB 1/6/2000 MW-6DB Primary	MW-6DB 5/23/2000 MW-6DB Primary	MW-6SB 10/21/1999 MW-6SB Primary	MW-6SB 1/6/2000 MW-6SB Primary	MW-6SB 1/6/2000 MW-6SB Primary	MW-6SB 5/23/2000 MW-6SB Primary	MW-8DB 10/19/1999 MW-8DB Primary	MW-8DB 10/19/1999 DUPE1 Duplicate	MW-8DB 10/19/1999 MW-8DB Duplicate	MW-8DB 12/22/1999 MW-8DB Primary	MW-8DB 12/22/1999 MW-8DB Primary	MW-8DB 12/22/1999 MW-8DB DUP Duplicate	MW-8DB 5/25/2000 MW-8DB Primary
Dissolved Volatile Organic Compound																
Tetrachloroethylene	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Semi-Volatile Organic Compounds																
bis(2-Ethylhexyl)phthalate	ug/l	—	—	<10.	<10	—	—	<10.	<10	—	—	—	—	<11	<11	<10
Phenol	ug/l	—	—	<10.	<10	—	—	<10.	<10	—	—	—	—	<11	<11	<10
PCBs																
Aroclor 1260	ug/l	—	—	<0.10	—	—	—	<0.10	—	—	—	—	—	<0.10	<0.10	—
Dichlorobiphenyl	ng/l	—	—	—	<0.50	—	—	—	—	—	—	—	—	—	—	—
Heptachlorobiphenyl	ng/l	—	—	—	<0.50	—	—	—	—	—	—	—	—	—	—	—
Hexachlorobiphenyl	ng/l	—	—	—	<0.50	—	—	—	—	—	—	—	—	—	—	—
Nonachlorobiphenyl	ng/l	—	—	—	<0.50	—	—	—	—	—	—	—	—	—	—	—
Octachlorobiphenyl	ng/l	—	—	—	<0.50	—	—	—	—	—	—	—	—	—	—	—
Pentachlorobiphenyl	ng/l	—	—	—	<0.50	—	—	—	—	—	—	—	—	—	—	—
Tetrachlorobiphenyl	ng/l	—	—	—	<0.50	—	—	—	—	—	—	—	—	—	—	—
Trichlorobiphenyl	ng/l	—	—	—	<0.50	—	—	—	—	—	—	—	—	—	—	—
Pesticides																
Dieldrin	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total Inorganics																
Aluminum	ug/l	—	—	<100	<100	—	—	<100	<100	—	—	—	—	<100	<100	<100
Antimony	ug/l	—	—	<8.0	<8.0	—	—	<8.0	<8.0	—	—	—	—	<8.0	<8.0	<8.0
Arsenic	ug/l	—	—	<8.0	<8.0	—	—	<8.0	<8.0	—	—	—	—	<8.0	<8.0	<8.0
Barium	ug/l	—	—	<5.0	<5.0	—	—	<5.0	<5.0	—	—	—	—	<5.0	<5.0	<5.0
Beryllium	ug/l	—	—	<5.0	<5.0	—	—	<5.0	<5.0	—	—	—	—	<5.0	<5.0	<5.0
Cadmium	ug/l	—	—	<10	<10	—	—	<10	<10	—	—	—	—	<10	<10	<10
Calcium	ug/l	—	—	16400	17200	—	—	9440	9230	—	—	—	—	26000	25600	27500
Chromium	ug/l	—	—	<15	<15	—	—	<15	4.1B	—	—	—	—	<15	0.68	<15
Cobalt	ug/l	—	—	<30	<30	—	—	<30	<30	—	—	—	—	<30	<30	<30
Copper	ug/l	—	—	<25	<25	—	—	<25	<25	—	—	—	—	<25	<25	<25
Iron	ug/l	—	—	<50	<50	—	—	<50	<50	—	—	—	—	<50	<50	<50
Lead	ug/l	—	—	<5.0	<5.0	—	—	<5.0	<5.0	—	—	—	—	<5.0	<5.0	1.8B
Magnesium	ug/l	—	—	3400	3520	—	—	2790	2790	—	—	—	—	6410	6320	7050
Manganese	ug/l	—	—	<0.94	<5.0	—	—	<5.0	<5.0	—	—	—	—	<5.0	<5.0	1.5B
Mercury	ug/l	—	—	<0.20	<0.20	—	—	<0.20	<0.20	—	—	—	—	<0.20	<0.20	0.04B
Nickel	ug/l	—	—	<40	<40	—	—	<40	<40	—	—	—	—	<40	<40	<40
Potassium	ug/l	—	—	<1000	514B	—	—	<1000	832B	—	—	—	—	1440J	1700J	1080
Selenium	ug/l	—	—	<10	<10	—	—	<10	<10	—	—	—	—	<10	<10	<10
Silver	ug/l	—	—	<15	<15	—	—	<15	<15	—	—	—	—	<15	<15	<15
Sodium	ug/l	—	—	2260	2020	—	—	2110	1740	—	—	—	—	5560	5620	5420
Thallium	ug/l	—	—	<15	<15	—	—	<15	<15	—	—	—	—	<30	<15	<15
Vanadium	ug/l	—	—	<25	<25	—	—	<25	6.3B	—	—	—	—	<25	<25	<25
Zinc	ug/l	—	—	<25	<25	—	—	<25	2.3B	—	—	—	—	4.6J	10.2	<25
Dissolved Inorganics																
Aluminum	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arsenic	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Calcium	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Chromium	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Iron	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Lead	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Magnesium	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manganese	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mercury	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sodium	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Table 7
Detected Parameters
Groundwater Samples
Hows Corner Superfund Site
Plymouth, Maine

Parameter	Units	MW-6DB 10/21/1999 MW-6 DB Primary	MW-6DB 1/6/2000 MW-6DB Primary	MW-6DB 1/6/2000 MW-6DB Primary	MW-6DB 5/23/2000 MW-6DB Primary	MW-6SB 10/21/1999 MW-6SB Primary	MW-6SB 1/6/2000 MW-6SB Primary	MW-6SB 1/6/2000 MW-6SB Primary	MW-6SB 5/23/2000 MW-6SB Primary	MW-8DB 10/19/1999 MW-8DB Primary	MW-8DB 10/19/1999 DUPE1 Duplicate	MW-8DB 10/19/1999 MW-8DB Duplicate	MW-8DB 12/22/1999 MW-8DB Primary	MW-8DB 12/22/1999 MW-8DB Primary	MW-8DB 12/22/1999 MW-8DB DUP Duplicate	MW-8DB 5/25/2000 MW-8DB Primary
Petroleum Hydrocarbons																
TPH	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Water Quality Parameters																
Alkalinity (as CaCO3)	mg/l	—	—	58	—	—	—	34	—	—	—	—	—	—	—	—
Bicarbonate (as CaCO3)	mg/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Chloride	mg/l	—	—	2.1	—	—	—	<2.0	—	—	—	—	—	—	—	—
Dissolved oxygen	mg/l	—	0.29	—	—	—	0.48	—	—	—	—	—	5.61	—	—	—
eH	mv	—	109.3	—	—	—	140.8	—	—	—	—	—	188.3	—	—	—
Ferric iron	mg/l	—	—	<0.1	—	—	—	<0.1	—	—	—	—	—	—	—	—
Ferrous iron	mg/l	—	—	<0.10	—	—	—	<0.10	—	—	—	—	—	—	—	—
Methane	mg/l	—	—	<0.010	—	—	—	<0.010	—	—	—	—	—	—	—	—
Nitrate (as N)	mg/l	—	—	0.13	—	—	—	0.16	—	—	—	—	—	—	—	—
pH		—	6.47	—	—	—	6.15	—	—	—	—	—	6.53	—	—	—
Residue, filterable	mg/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Specific conductivity	umhos/cm	—	105	—	—	—	74	—	—	—	—	—	206	—	—	—
Sulfate	mg/l	—	—	6.9	—	—	—	6.2	—	—	—	—	—	—	—	—
Sulfide	mg/l	—	—	<4.0	—	—	—	<4.0	—	—	—	—	—	—	—	—
Temperature	cent	—	8.28	—	—	—	8.84	—	—	—	—	—	7.21	—	—	—
Total organic carbon	mg/l	—	—	1	—	—	—	1.5	—	—	—	—	—	—	—	—
Turbidity	ntu	—	0.86	—	—	—	0.57	—	—	—	—	—	5.54	—	—	—

< = not detected at reporting limit
— = not analyzed
B = estimated (inorganics)
E = estimated
J = estimated
R = rejected
U = revised to non-detected

Table 7
Detected Parameters
Groundwater Samples
Hows Corner Superfund Site
Plymouth, Maine

Parameter	Units	MW-8SB 10/19/1999 MW-8SB Primary	MW-8SB 12/22/1999 MW-8SB Primary	MW-8SB 12/22/1999 MW-8SB Primary	MW-8SB 5/25/2000 MW-8SB Primary	MW-12DB 10/20/1999 MW-12DB Primary	MW-12DB 10/20/1999 DUPE2 Duplicate	MW-12DB 10/20/1999 MW-12DB Duplicate	MW-12DB 12/21/1999 MW-12DB Primary	MW-12DB 12/21/1999 MW-12DB Primary	MW-12DB 5/22/2000 MW-12DB Primary	MW-12SB 10/20/1999 MW-12SB Primary	MW-12SB 10/20/1999 DUPE3 Duplicate	MW-12SB 10/20/1999 MW-12SB Duplicate	MW-12SB 12/21/1999 MW-12SB Primary	MW-12SB 12/21/1999 MW-12SB Primary
Total Volatile Organic Compounds																
Acetone	ug/l	<10	—	<5J	<5	<10	<10	<10	—	<5J	<5	<10	<10	<10	—	<5J
Benzene	ug/l	<5	—	<1	<1	<5	<5	<5	—	<1	<1	<5	<5	<5	—	<1
2-Butanone	ug/l	<10	—	<5	<5	<10	<10	<10	—	<5	<5	<10	<10	<10	—	<5
n-Butylbenzene	ug/l	<5	—	<1	<1	<5	<5	<5	—	<1	<1	<5	<5	<5	—	<1
sec-Butylbenzene	ug/l	<5	—	<1	<1	<5	<5	<5	—	<1	<1	<5	<5	<5	—	<1
Carbon disulfide	ug/l	<5	—	<2.0	<2.0J	<5	<5	<5	—	<2.0	<2.0	<5	<5	<5	—	<2.0
Carbon tetrachloride	ug/l	<5	—	<1	<1	<5	<5	<5	—	<1	<1	<5	<5	<5	—	<1
Chlorobenzene	ug/l	<5	—	<1	<1	<5	<5	<5	—	<1	<1	<5	<5	<5	—	<1
Chloroethane	ug/l	<5	—	<2	<2	<5	<5	<5	—	<2	<2	<5	<5	<5	—	<2
Chloroform	ug/l	<5	—	<1	<1	<5	<5	<5	—	<1	<1	<5	<5	<5	—	<1
Chloromethane	ug/l	<5	—	<2	<2	<5	<5	<5	—	<2	<2	<5	<5	<5	—	<2
2-Chlorotoluene	ug/l	<5	—	<1	<1	<5	<5	<5	—	<1	<1	<5	<5	<5	—	<1
4-Chlorotoluene	ug/l	<5	—	<1	<1	<5	<5	<5	—	<1	<1	<5	<5	<5	—	<1
Dibromochloromethane	ug/l	<5	—	<1	<1	<5	<5	<5	—	<1	<1	<5	<5	<5	—	<1
1,2-Dichlorobenzene	ug/l	<5	—	<1	<1	<5	<5	<5	—	<1	<1	<5	<5	<5	—	<1
1,3-Dichlorobenzene	ug/l	<5	—	<1	<1	<5	<5	<5	—	<1	<1	<5	<5	<5	—	<1
1,4-Dichlorobenzene	ug/l	<5	—	<1	<1	<5	<5	<5	—	<1	<1	<5	<5	<5	—	<1
1,1-Dichloroethane	ug/l	<5	—	<1	<1	<5	<5	<5	—	<1	<1	<5	<5	<5	—	<1
1,1-Dichloroethene	ug/l	<5	—	<1	<1	<5	<5	<5	—	<1	<1	<5	<5	<5	—	<1
1,2-Dichloroethene	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
cis-1,2-Dichloroethene	ug/l	<5	—	<1	<1	<5	<5	<5	—	<1	<1	<5	<5	<5	—	<1
trans-1,2-Dichloroethene	ug/l	<5	—	<1	<1	<5	<5	<5	—	<1	<1	<5	<5	<5	—	<1
Diethyl ether	ug/l	<5	—	<2	<2	<5	<5	<5	—	<2	<2	<5	<5	<5	—	<2
Ethylbenzene	ug/l	<5	—	<1	<1	<5	<5	<5	—	<1	<1	<5	<5	<5	—	<1
Hexachlorobutadiene	ug/l	<5	—	<1	<1J	<5	<5	<5	—	<1	<1J	<5	<5	<5	—	<1
Isopropylbenzene	ug/l	<5	—	<1	<1	<5	<5	<5	—	<1	<1	<5	<5	<5	—	<1
p-Isopropyltoluene	ug/l	<5	—	<1	<1	<5	<5	<5	—	<1	<1	<5	<5	<5	—	<1
Methylene chloride	ug/l	<5	—	<1	<1J	<5	<5	<5	—	<1	<1J	<5	<5	<5	—	<1
MTBE	ug/l	<5	—	<1	<1	<5	<5	<5	—	<1	<1	<5	<5	<5	—	<1
Naphthalene	ug/l	<5	—	<1	<1	<5	<5	<5	—	<1	<1	<5	<5	<5	—	<1
n-Propylbenzene	ug/l	<5	—	<1	<1	<5	<5	<5	—	<1	<1	<5	<5	<5	—	<1
1,1,1,2-Tetrachloroethane	ug/l	<5	—	<1	<1	<5	<5	<5	—	<1	<1	<5	<5	<5	—	<1
Tetrachloroethene	ug/l	<5	—	0.7J	2	46	64J	64J	—	43	37	<5	<5	<5	—	1
Tetrahydrofuran	ug/l	<10	—	<10	<10	<10	<10	<10	—	<10J	<10	<10	<10	<10	—	<10J
Toluene	ug/l	<5	—	<1	<1	<5	<5	<5	—	<1	<1	<5	<5	<5	—	<1
1,2,3-Trichlorobenzene	ug/l	<5	—	<1	<1	<5	<5	<5	—	<1	<1	<5	<5	<5	—	<1
1,2,4-Trichlorobenzene	ug/l	<5	—	<1	<1	<5	<5	<5	—	<1	<1	<5	<5	<5	—	<1
1,3,5-Trichlorobenzene	ug/l	<5	—	<1	<1	<5	<5	<5	—	<1	<1	<5	<5	<5	—	<1
1,1,1-Trichloroethane	ug/l	<5	—	<1	<1	5	4J	4J	—	4	3	<5	<5	<5	—	<1
1,1,2-Trichloroethane	ug/l	<5	—	<1	<1	<5	<5	<5	—	<1	<1	<5	<5	<5	—	<1
Trichloroethene	ug/l	<5	—	<1	<1	<5	<5	<5	—	0.7J	0.6J	<5	<5	<5	—	<1
Trichlorofluoromethane	ug/l	<5	—	<2	<2	<5	<5	<5	—	<2	<2	<5	<5	<5	—	<2
1,2,4-Trimethylbenzene	ug/l	<5	—	<1	<1	<5	<5	<5	—	<1	<1	<5	<5	<5	—	<1
1,3,5-Trimethylbenzene	ug/l	<5	—	<1	<1	<5	<5	<5	—	<1	<1	<5	<5	<5	—	<1
Vinyl chloride	ug/l	<2	—	<2	<2	<2	<2	<2	—	<2	<2	<2	<2	<2	—	<2
o-Xylene	ug/l	<5	—	<1	<1	<5	<5	<5	—	<1	<1	<5	<5	<5	—	<1
m+p-Xylenes	ug/l	<5	—	<1	<1	<5	<5	<5	—	<1	<1	<5	<5	<5	—	<1

Table 7
Detected Parameters
Groundwater Samples
Hows Corner Superfund Site
Plymouth, Maine

Parameter	Units	MW-8SB 10/19/1999 MW-8SB Primary	MW-8SB 12/22/1999 MW-8SB Primary	MW-8SB 12/22/1999 MW-8SB Primary	MW-8SB 5/25/2000 MW-8SB Primary	MW-12DB 10/20/1999 MW-12DB Primary	MW-12DB 10/20/1999 DUPE2 Duplicate	MW-12DB 10/20/1999 MW-12DB Duplicate	MW-12DB 12/21/1999 MW-12DB Primary	MW-12DB 12/21/1999 MW-12DB Primary	MW-12DB 5/22/2000 MW-12DB Primary	MW-12SB 10/20/1999 MW-12SB Primary	MW-12SB 10/20/1999 DUPE3 Duplicate	MW-12SB 10/20/1999 MW-12SB Duplicate	MW-12SB 12/21/1999 MW-12SB Primary	MW-12SB 12/21/1999 MW-12SB Primary
Dissolved Volatile Organic Compound																
Tetrachloroethylene	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Semi-Volatile Organic Compounds																
bis(2-Ethylhexyl)phthalate	ug/l	—	—	<10	<10	—	—	—	—	120	<10	—	—	—	—	<10
Phenol	ug/l	—	—	<10	<10	—	—	—	—	<10	<10	—	—	—	—	<13
PCBs																
Aroclor 1260	ug/l	—	—	<0.10	—	—	—	—	—	<0.10	—	—	—	—	—	<0.10
Dichlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Heptachlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hexachlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Nonachlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Octachlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Pentachlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tetrachlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Trichlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Pesticides																
Dieldrin	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total Inorganics																
Aluminum	ug/l	—	—	<100	<100	—	—	—	—	<100	<100	—	—	—	—	<100
Antimony	ug/l	—	—	<8.0	<8.0	—	—	—	—	<8.0	<8.0	—	—	—	—	<8.0
Arsenic	ug/l	—	—	<8.0	<8.0	—	—	—	—	<8.0	<8.0	—	—	—	—	<8.0
Barium	ug/l	—	—	<5.0	<5.0	—	—	—	—	<5.0	<5.0	—	—	—	—	7.4
Beryllium	ug/l	—	—	<5.0	<5.0	—	—	—	—	<5.0	<5.0	—	—	—	—	<5.0
Cadmium	ug/l	—	—	<10	<10	—	—	—	—	<10	<10	—	—	—	—	<10
Calcium	ug/l	—	—	18600	18800	—	—	—	—	19000	20400	—	—	—	—	28800
Chromium	ug/l	—	—	0.76	<15	—	—	—	—	<15	<15	—	—	—	—	<15
Cobalt	ug/l	—	—	<30	<30	—	—	—	—	<30	<30	—	—	—	—	<30
Copper	ug/l	—	—	<25	<25	—	—	—	—	2.1	<25	—	—	—	—	2.5
Iron	ug/l	—	—	<50	<50	—	—	—	—	<50	<50	—	—	—	—	<50
Lead	ug/l	—	—	<5.0	1.6B	—	—	—	—	<5.0	<5.0	—	—	—	—	<5.0
Magnesium	ug/l	—	—	3830	4080	—	—	—	—	2800	3130	—	—	—	—	4900
Manganese	ug/l	—	—	<5.0	<5.0	—	—	—	—	<5.0	<5.0	—	—	—	—	19.8
Mercury	ug/l	—	—	<0.20	0.03B	—	—	—	—	<0.20	0.17BJN	—	—	—	—	<0.20
Nickel	ug/l	—	—	<40	<40	—	—	—	—	<40	<40	—	—	—	—	<40
Potassium	ug/l	—	—	1420J	962B	—	—	—	—	<1000	424B	—	—	—	—	1300
Selenium	ug/l	—	—	<10	<10	—	—	—	—	<10	<10	—	—	—	—	<10
Silver	ug/l	—	—	<15	<15	—	—	—	—	<15	<15	—	—	—	—	<15
Sodium	ug/l	—	—	4090	3880	—	—	—	—	3270	3200	—	—	—	—	3050
Thallium	ug/l	—	—	<15	<15	—	—	—	—	<15	<15	—	—	—	—	<15
Vanadium	ug/l	—	—	<25	<25	—	—	—	—	<25	<25	—	—	—	—	<25
Zinc	ug/l	—	—	<25	<25	—	—	—	—	<25	<25	—	—	—	—	<25
Dissolved Inorganics																
Aluminum	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arsenic	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Calcium	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Chromium	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Iron	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Lead	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Magnesium	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manganese	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mercury	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sodium	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Table 7
Detected Parameters
Groundwater Samples
Hows Corner Superfund Site
Plymouth, Maine

Parameter	Units	MW-8SB 10/19/1999 MW-8SB Primary	MW-8SB 12/22/1999 MW-8SB Primary	MW-8SB 12/22/1999 MW-8SB Primary	MW-8SB 5/25/2000 MW-8SB Primary	MW-12DB 10/20/1999 MW-12DB Primary	MW-12DB 10/20/1999 DUPE2 Duplicate	MW-12DB 10/20/1999 MW-12DB Duplicate	MW-12DB 12/21/1999 MW-12DB Primary	MW-12DB 12/21/1999 MW-12DB Primary	MW-12DB 5/22/2000 MW-12DB Primary	MW-12SB 10/20/1999 MW-12SB Primary	MW-12SB 10/20/1999 DUPE3 Duplicate	MW-12SB 10/20/1999 MW-12SB Duplicate	MW-12SB 12/21/1999 MW-12SB Primary	MW-12SB 12/21/1999 MW-12SB Primary
Petroleum Hydrocarbons																
TPH	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Water Quality Parameters																
Alkalinity (as CaCO3)	mg/l	—	—	—	—	—	—	—	—	57	—	—	—	—	—	—
Bicarbonate (as CaCO3)	mg/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Chloride	mg/l	—	—	—	—	—	—	—	—	5.4	—	—	—	—	—	—
Dissolved oxygen	mg/l	—	5.42	—	—	—	—	—	8.16	—	—	—	—	—	1.8	—
eH	mv	—	174.6	—	—	—	—	—	114.2	—	—	—	—	—	133.6	—
Ferric iron	mg/l	—	—	—	—	—	—	—	—	<0.1	—	—	—	—	—	—
Ferrous iron	mg/l	—	—	—	—	—	—	—	—	<0.10	—	—	—	—	—	—
Methane	mg/l	—	—	—	—	—	—	—	—	<0.010	—	—	—	—	—	—
Nitrate (as N)	mg/l	—	—	—	—	—	—	—	—	0.63	—	—	—	—	—	—
pH		—	6.56	—	—	—	—	—	6.87	—	—	—	—	—	7.03	—
Residue, filterable	mg/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Specific conductivity	umhos/cm	—	140	—	—	—	—	—	144	—	—	—	—	—	189	—
Sulfate	mg/l	—	—	—	—	—	—	—	—	5.1	—	—	—	—	—	—
Sulfide	mg/l	—	—	—	—	—	—	—	—	2.8	—	—	—	—	—	—
Temperature	cent	—	8.4	—	—	—	—	—	7.56	—	—	—	—	—	7.93	—
Total organic carbon	mg/l	—	—	—	—	—	—	—	—	1.4	—	—	—	—	—	—
Turbidity	ntu	—	1.32	—	—	—	—	—	1.15	—	—	—	—	—	1.23	—

< = not detected at reporting limit
— = not analyzed
B = estimated (inorganics)
E = estimated
J = estimated
R = rejected
U = revised to non-detected

Table 7
Detected Parameters
Groundwater Samples
Hows Corner Superfund Site
Plymouth, Maine

Parameter	Units	MW-12SB 5/22/2000 MW-12SB Primary	MW-13DB 10/20/1999 MW-13DB Primary	MW-13DB 10/20/1999 DUPE4 Duplicate	MW-13DB 12/21/1999 MW-13DB Primary	MW-13DB 12/21/1999 MW-13DB Primary	MW-13DB 12/21/1999 MW-13DB DUP Duplicate	MW-13DB 5/23/2000 MW-13DB Primary	MW-13DB 6/8/2001 MW-13DB Primary	MW-13DB 1/16/2002 MW-13DB (60') Primary	MW-13DB 1/16/2002 MW-13DB (63') Primary	MW-13DB 1/16/2002 MW-13DB (66') Primary	MW-13DB 1/16/2002 MW-13DB Primary	MW-13DB 4/15/2003 MW-13DB Primary	MW-13DB 9/8/2004 MW-13DB Primary
Total Volatile Organic Compounds															
Acetone	ug/l	<5.J	<10	<10.	—	<5J	<5J	<5J	<5	<8J	<8J	<9J	<5J	<5	<5
Benzene	ug/l	<1.	<5	<5.	—	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-Butanone	ug/l	<5.J	<10	<10.	—	<5	<5	<5J	<5	<5J	<5J	<5J	<5J	<5	<5
n-Butylbenzene	ug/l	<1.	<5	<5.	—	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene	ug/l	<1.	<5	<5.	—	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon disulfide	ug/l	<2.	<5	<5.	—	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<1	<1
Carbon tetrachloride	ug/l	<1.	<5	<5.	—	<1	<1	<1	<1J	<1	<1	<1	<1	<1	<1
Chlorobenzene	ug/l	<1.	<5	<5.	—	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	ug/l	<2.	<5	<5.	—	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Chloroform	ug/l	<1.	<5	<5.	—	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane	ug/l	<2.	<5	<5.	—	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
2-Chlorotoluene	ug/l	<1.	<5	<5.	—	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
4-Chlorotoluene	ug/l	<1.	<5	<5.	—	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dibromochloromethane	ug/l	<1.	<5	<5.	—	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	ug/l	<1.	<5	<5.	—	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	ug/l	<1.	<5	<5.	—	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	ug/l	<1.	<5	<5.	—	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	ug/l	<1.	<5	<5.	—	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	ug/l	<1.	<5	<5.	—	<1J	<1	<1	<1	0.8J	1	<1	1	<1	0.4J
1,2-Dichloroethene	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
cis-1,2-Dichloroethene	ug/l	<1.	<5	<5.	—	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	ug/l	<1.	<5	<5.	—	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Diethyl ether	ug/l	<2.	<5	<5.	—	<2	<2	<2	<2	<2	<2	<2	<2	<1	<1
Ethylbenzene	ug/l	<1.	<5	<5.	—	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Hexachlorobutadiene	ug/l	<1.J	<5	<5.	—	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Isopropylbenzene	ug/l	<1.	<5	<5.	—	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
p-Isopropyltoluene	ug/l	<1.	<5	<5.	—	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methylene chloride	ug/l	<1.J	<5	<5.	—	<1	<1	<1J	<1J	<1J	<1J	<1J	<1J	<1	<1
MTBE	ug/l	<1.	<5	<5.	—	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2
Naphthalene	ug/l	<1.J	<5	<5.	—	<1	<1	<1	<1J	<1	<1	<1	<1	<1	<1
n-Propylbenzene	ug/l	<1.	<5	<5.	—	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1,2-Tetrachloroethane	ug/l	<1.	<5	<5.	—	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	ug/l	<1.J	5J	6	—	4	5	6	5	25	43	10	52	7	9
Tetrahydrofuran	ug/l	<10.	<10	<10.	—	<10J	<10J	<10	<10	<10	<10	<10	<10	<10	<10
Toluene	ug/l	<1.	<5	<5.	—	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichlorobenzene	ug/l	<1.J	<5	<5.	—	<1	<1	<1	<1J	<1	<1	<1	<1J	<1J	<1
1,2,4-Trichlorobenzene	ug/l	<1.J	<5	<5.	—	<1	<1	<1	<1	<1	<1	<1	<1J	<1	<1
1,3,5-Trichlorobenzene	ug/l	<1.J	<5	<5.	—	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-Trichloroethane	ug/l	<1.	9	9	—	5	6	3	7J	14	16	10	15	3	8
1,1,2-Trichloroethane	ug/l	<1.	<5	<5.	—	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	ug/l	<1.	<5	<5.	—	<1J	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	ug/l	<2.	<5	<5.	—	<2	<2	<2J	<2	<2	<2	<2	<2	<2	<2
1,2,4-Trimethylbenzene	ug/l	<1.	<5	<5.	—	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene	ug/l	<1.	<5	<5.	—	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl chloride	ug/l	<2.	<2	<2.	—	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
o-Xylene	ug/l	<1.	<5	<5.	—	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
m+p-Xylenes	ug/l	<1.	<5	<5.	—	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2

Table 7
Detected Parameters
Groundwater Samples
Hows Corner Superfund Site
Plymouth, Maine

Parameter	Units	MW-12SB 5/22/2000 MW-12SB Primary	MW-13DB 10/20/1999 MW-13DB Primary	MW-13DB 10/20/1999 DUPE4 Duplicate	MW-13DB 12/21/1999 MW-13DB Primary	MW-13DB 12/21/1999 MW-13DB Primary	MW-13DB 12/21/1999 MW-13DB DUP Duplicate	MW-13DB 5/23/2000 MW-13DB Primary	MW-13DB 6/8/2001 MW-13DB Primary	MW-13DB 1/16/2002 MW-13DB (60') Primary	MW-13DB 1/16/2002 MW-13DB (63') Primary	MW-13DB 1/16/2002 MW-13DB (66') Primary	MW-13DB 1/16/2002 MW-13DB Primary	MW-13DB 4/15/2003 MW-13DB Primary	MW-13DB 9/8/2004 MW-13DB Primary
Dissolved Volatile Organic Compound															
Tetrachloroethylene	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Semi-Volatile Organic Compounds															
bis(2-Ethylhexyl)phthalate	ug/l	<10	—	—	—	<10	97	<10	—	—	—	—	—	—	—
Phenol	ug/l	<10	—	—	—	<14	<13	<10	—	—	—	—	—	—	—
PCBs															
Aroclor 1260	ug/l	—	—	—	—	<0.10	<0.10	—	—	—	—	—	—	—	—
Dichlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Heptachlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hexachlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Nonachlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Octachlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Pentachlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tetrachlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Trichlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Pesticides															
Dieldrin	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total Inorganics															
Aluminum	ug/l	<100	—	—	—	<100	<100	<100	—	—	—	—	—	—	—
Antimony	ug/l	<8.0	—	—	—	<8.0	<8.0	<8.0	—	—	—	—	—	—	—
Arsenic	ug/l	<8.0	—	—	—	<8.0	<8.0	<8.0	—	—	—	—	—	<1.80J	—
Barium	ug/l	7.1	—	—	—	<5.0	4.9	<5.0	—	—	—	—	—	—	—
Beryllium	ug/l	<5.0	—	—	—	<5.0	<5.0	<5.0	—	—	—	—	—	—	—
Cadmium	ug/l	<10	—	—	—	<10	<10	3.0B	—	—	—	—	—	—	—
Calcium	ug/l	27600	—	—	—	22300	21800	19200	—	—	—	—	—	—	—
Chromium	ug/l	<15	—	—	—	0.71	<15	<15	—	—	—	—	—	—	—
Cobalt	ug/l	<30	—	—	—	<30	<30	<30	—	—	—	—	—	—	—
Copper	ug/l	<25	—	—	—	2.1	1.6	<25	—	—	—	—	—	—	—
Iron	ug/l	<50	—	—	—	<50	<50	<50	—	—	—	—	—	—	—
Lead	ug/l	<5.0	—	—	—	<5.0	<5.0	<5.0	—	—	—	—	—	—	—
Magnesium	ug/l	5030	—	—	—	4460	4380	3700	—	—	—	—	—	—	—
Manganese	ug/l	215	—	—	—	<5.0	<5.0	10	—	—	—	—	—	<0.38U	—
Mercury	ug/l	<0.20N	—	—	—	<0.20	<0.20	<0.20	—	—	—	—	—	—	—
Nickel	ug/l	<40	—	—	—	<40	<40	<40	—	—	—	—	—	—	—
Potassium	ug/l	705B	—	—	—	<1000	<1000	622B	—	—	—	—	—	—	—
Selenium	ug/l	<10	—	—	—	<10	<10	<10	—	—	—	—	—	—	—
Silver	ug/l	<15	—	—	—	<15	<15	<15	—	—	—	—	—	—	—
Sodium	ug/l	2550	—	—	—	3200	3210	2970	—	—	—	—	—	—	—
Thallium	ug/l	<15	—	—	—	<15	<15	<15	—	—	—	—	—	—	—
Vanadium	ug/l	<25	—	—	—	<25	<25	<25	—	—	—	—	—	—	—
Zinc	ug/l	2.6B	—	—	—	<2.5	<25	<25	—	—	—	—	—	—	—
Dissolved Inorganics															
Aluminum	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arsenic	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Calcium	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Chromium	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Iron	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Lead	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Magnesium	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manganese	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mercury	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sodium	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Table 7
Detected Parameters
Groundwater Samples
Hows Corner Superfund Site
Plymouth, Maine

Parameter	Units	MW-12SB 5/22/2000 MW-12SB Primary	MW-13DB 10/20/1999 MW-13DB Primary	MW-13DB 10/20/1999 DUPE4 Duplicate	MW-13DB 12/21/1999 MW-13DB Primary	MW-13DB 12/21/1999 MW-13DB Primary	MW-13DB 12/21/1999 MW-13DB DUP Duplicate	MW-13DB 5/23/2000 MW-13DB Primary	MW-13DB 6/8/2001 MW-13DB Primary	MW-13DB 1/16/2002 MW-13DB (60') Primary	MW-13DB 1/16/2002 MW-13DB (63') Primary	MW-13DB 1/16/2002 MW-13DB (66') Primary	MW-13DB 1/16/2002 MW-13DB Primary	MW-13DB 4/15/2003 MW-13DB Primary	MW-13DB 9/8/2004 MW-13DB Primary
Petroleum Hydrocarbons															
TPH	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Water Quality Parameters															
Alkalinity (as CaCO3)	mg/l	---	---	---	---	83	83	---	---	---	---	---	---	---	---
Bicarbonate (as CaCO3)	mg/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chloride	mg/l	---	---	---	---	3.6	3.4	---	---	---	---	---	---	---	---
Dissolved oxygen	mg/l	---	---	---	4.75	---	---	---	---	---	---	---	---	---	---
eH	mv	---	---	---	221.5	---	---	---	---	---	---	---	---	---	---
Ferric iron	mg/l	---	---	---	---	<0.1	<0.1	---	---	---	---	---	---	---	---
Ferrous iron	mg/l	---	---	---	---	<0.10	<0.10	---	---	---	---	---	---	---	---
Methane	mg/l	---	---	---	---	<0.010	<0.010	---	---	---	---	---	---	---	---
Nitrate (as N)	mg/l	---	---	---	---	0.082	0.091	---	---	---	---	---	---	---	---
pH		---	---	---	6.78	---	---	---	---	---	---	---	---	---	---
Residue, filterable	mg/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Specific conductivity	umhos/cm	---	---	---	108	---	---	---	---	---	---	---	---	---	---
Sulfate	mg/l	---	---	---	---	3.3	3.6	---	---	---	---	---	---	---	---
Sulfide	mg/l	---	---	---	---	<4.0	4.4	---	---	---	---	---	---	---	---
Temperature	cent	---	---	---	7.16	---	---	---	---	---	---	---	---	---	---
Total organic carbon	mg/l	---	---	---	---	1.4	1.4	---	---	---	---	---	---	---	---
Turbidity	ntu	---	---	---	0.89	---	---	---	---	---	---	---	---	---	---

< = not detected at reporting limit
--- = not analyzed
B = estimated (inorganics)
E = estimated
J = estimated
R = rejected
U = revised to non-detected

Table 7
Detected Parameters
Groundwater Samples
Hows Corner Superfund Site
Plymouth, Maine

Parameter	Units	MW-13DB	MW-13SB	MW-13SB	MW-13SB	MW-13SB	MW-14DB	MW-14DB	MW-14DB	MW-14SO	MW-14SO	MW-14SO	MW-15DB	MW-15DB	MW-15DB	MW-15DB
		9/8/2004	10/20/1999	12/21/1999	12/21/1999	5/23/2000	10/20/1999	1/5/2000	1/5/2000	10/20/1999	12/21/1999	12/21/1999	10/21/1999	12/22/1999	12/22/1999	5/22/2000
		MW-13DBDUP	MW-13SB	MW-13SB	MW-13SB	MW-13SB	MW-14DB	MW-14DB	MW-14DB	MW-14SO	MW-14SO	MW-14SO	MW-15 DB	MW-15DB	MW-15DB	MW-15DB
		Duplicate	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary
Total Volatile Organic Compounds																
Acetone	ug/l	3J	<10	—	<5J	<5J	<10	—	<5	<10	—	<5J	<10	—	<5J	<5J
Benzene	ug/l	<1	<5	—	<1	<1	<5	—	<1	<5	—	<1	<5	—	<1	<1
2-Butanone	ug/l	<5	<10	—	<5	<5	<10	—	<5	<10	—	<5	<10	—	<5	<5J
n-Butylbenzene	ug/l	<1	<5	—	<1	<1	<5	—	<1	<5	—	<1	<5	—	<1	<1
sec-Butylbenzene	ug/l	<1	<5	—	<1	<1	<5	—	<1	<5	—	<1	<5	—	<1	<1
Carbon disulfide	ug/l	<1	<5	—	<2.0	<2.0	<5	—	<2.0	<5	—	<2.0J	<5	—	<2.0	<2.0
Carbon tetrachloride	ug/l	<1	<5	—	<1	<1	<5	—	<1	<5	—	<1	<5	—	<1	<1
Chlorobenzene	ug/l	<1	<5	—	<1	<1	<5	—	<1	<5	—	<1	<5	—	<1	<1
Chloroethane	ug/l	<2	<5	—	<2	<2	<5	—	<2	<5	—	<2	<5	—	<2	<2
Chloroform	ug/l	<1	<5	—	<1	<1	<5	—	<1	<5	—	<1	<5	—	<1	<1
Chloromethane	ug/l	<2	<5	—	<2	<2	<5	—	<2	<5	—	<2	<5	—	<2	<2
2-Chlorotoluene	ug/l	<1	<5	—	<1	<1	<5	—	<1	<5	—	<1	<5	—	<1	<1
4-Chlorotoluene	ug/l	<1	<5	—	<1	<1	<5	—	<1	<5	—	<1	<5	—	<1	<1
Dibromochloromethane	ug/l	<1	<5	—	<1	<1	<5	—	<1	<5	—	<1	<5	—	<1	<1
1,2-Dichlorobenzene	ug/l	<1	<5	—	<1	<1	<5	—	<1	<5	—	<1	<5	—	<1	<1
1,3-Dichlorobenzene	ug/l	<1	<5	—	<1	<1	<5	—	<1	<5	—	<1	<5	—	<1	<1
1,4-Dichlorobenzene	ug/l	<1	<5	—	<1	<1	<5	—	<1	<5	—	<1	<5	—	<1	<1
1,1-Dichloroethane	ug/l	<1	<5	—	<1	<1	<5	—	<1	<5	—	<1	<5	—	<1	<1
1,1-Dichloroethene	ug/l	0.4J	<5	—	<1	<1	<5	—	<1	<5	—	<1	<5J	—	<1	<1
1,2-Dichloroethene	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
cis-1,2-Dichloroethene	ug/l	<1	<5	—	<1	<1	<5	—	<1	<5	—	<1	<5	—	<1	<1
trans-1,2-Dichloroethene	ug/l	<1	<5	—	<1	<1	<5	—	<1	<5	—	<1	<5	—	<1	<1
Diethyl ether	ug/l	<1	<5	—	<2	<2	<5	—	<2	<5	—	<2	<5	—	<2	<2
Ethylbenzene	ug/l	<1	<5	—	<1	<1	<5	—	<1	<5	—	<1	<5	—	<1	<1
Hexachlorobutadiene	ug/l	<1	<5	—	<1	<1	<5	—	<1	<5	—	<1	<5	—	<1	<1J
Isopropylbenzene	ug/l	<1	<5	—	<1	<1	<5	—	<1	<5	—	<1	<5	—	<1	<1
p-Isopropyltoluene	ug/l	<1	<5	—	<1	<1	<5	—	<1	<5	—	<1	<5	—	<1	<1
Methylene chloride	ug/l	<1	<5	—	<1	<1J	<5	—	<1J	<5	—	1	<5	—	<1	<1J
MTBE	ug/l	<2	<5	—	<1	<1	<5	—	<1	<5	—	<1	<5	—	<1	<1
Naphthalene	ug/l	<1	<5	—	<1	<1J	<5	—	<1	<5	—	<1	<5	—	<1	<1J
n-Propylbenzene	ug/l	<1	<5	—	<1	<1	<5	—	<1	<5	—	<1	<5	—	<1	<1
1,1,1,2-Tetrachloroethane	ug/l	<1	<5	—	<1	<1	<5	—	<1	<5	—	<1	<5	—	<1	<1
Tetrachloroethene	ug/l	10	4J	—	5	3	<5	—	<1	<5	—	<1	<5	—	<1	<1J
Tetrahydrofuran	ug/l	<10	<10	—	<10J	<10	<10	—	<10	<10	—	<10J	<10	—	<10	<10
Toluene	ug/l	<1	<5	—	<1	<1	<5	—	<1	<5	—	<1	<5	—	<1	<1
1,2,3-Trichlorobenzene	ug/l	<1	<5	—	<1	<1	<5	—	<1	<5	—	<1	<5	—	<1	<1J
1,2,4-Trichlorobenzene	ug/l	<1	<5	—	<1	<1	<5	—	<1	<5	—	<1	<5	—	<1	<1J
1,3,5-Trichlorobenzene	ug/l	<1	<5	—	<1	<1	<5	—	<1	<5	—	<1	<5	—	<1	<1J
1,1,1-Trichloroethane	ug/l	8	<5	—	<1	<1	<5	—	<1	<5	—	<1	<5	—	<1	<1
1,1,2-Trichloroethane	ug/l	<1	<5	—	<1	<1	<5	—	<1	<5	—	<1	<5	—	<1	<1
Trichloroethene	ug/l	<1	<5	—	<1	<1	<5	—	<1	<5	—	<1	<5J	—	<1	<1
Trichlorofluoromethane	ug/l	<2	<5	—	<2	<2	<5	—	<2	<5	—	<2	<5	—	<2	<2
1,2,4-Trimethylbenzene	ug/l	<1	<5	—	<1	<1	<5	—	<1	<5	—	<1	<5	—	<1	<1
1,3,5-Trimethylbenzene	ug/l	<1	<5	—	<1	<1	<5	—	<1	<5	—	<1	<5	—	<1	<1
Vinyl chloride	ug/l	<2	<2	—	<2	<2	<2	—	<2	<2	—	<2	<2	—	<2	<2
o-Xylene	ug/l	<1	<5	—	<1	<1	<5	—	<1	<5	—	<1	<5	—	<1	<1
m+p-Xylenes	ug/l	<2	<5	—	<1	<1	<5	—	<1	<5	—	<1	<5	—	<1	<1

Table 7
Detected Parameters
Groundwater Samples
Hows Corner Superfund Site
Plymouth, Maine

Parameter	Units	MW-13DB 9/8/2004 MW-13DBDUP Duplicate	MW-13SB 10/20/1999 MW-13SB Primary	MW-13SB 12/21/1999 MW-13SB Primary	MW-13SB 12/21/1999 MW-13SB Primary	MW-13SB 5/23/2000 MW-13SB Primary	MW-14DB 10/20/1999 MW-14DB Primary	MW-14DB 1/5/2000 MW-14DB Primary	MW-14DB 1/5/2000 MW-14DB Primary	MW-14SO 10/20/1999 MW-14SO Primary	MW-14SO 12/21/1999 MW-14SO Primary	MW-14SO 12/21/1999 MW-14SO Primary	MW-15DB 10/21/1999 MW-15 DB Primary	MW-15DB 12/22/1999 MW-15DB Primary	MW-15DB 12/22/1999 MW-15DB Primary	MW-15DB 5/22/2000 MW-15DB Primary
Dissolved Volatile Organic Compound																
Tetrachloroethylene	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Semi-Volatile Organic Compounds																
bis(2-Ethylhexyl)phthalate	ug/l	---	---	---	6J	<10	---	---	---	---	---	6J	---	---	<10	<10
Phenol	ug/l	---	---	---	71	<10	---	---	---	---	---	<13	---	---	<10	<10
PCBs																
Aroclor 1260	ug/l	---	---	---	<0.10	---	---	---	---	---	---	<0.10	---	---	<0.10	---
Dichlorobiphenyl	ng/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Heptachlorobiphenyl	ng/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Hexachlorobiphenyl	ng/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Nonachlorobiphenyl	ng/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Octachlorobiphenyl	ng/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Pentachlorobiphenyl	ng/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Tetrachlorobiphenyl	ng/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Trichlorobiphenyl	ng/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Pesticides																
Dieldrin	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Total Inorganics																
Aluminum	ug/l	---	---	---	<100	<100	---	---	---	---	---	<100	---	---	<100	<100
Antimony	ug/l	---	---	---	<8.0	<8.0	---	---	---	---	---	<8.0	---	---	<8.0	<8.0
Arsenic	ug/l	---	---	---	<8.0	<8.0	---	---	---	---	---	<8.0	---	---	<8.0	<8.0
Barium	ug/l	---	---	---	3.9	<5.0	---	---	---	---	---	10.4	---	---	<4.6	4.0B
Beryllium	ug/l	---	---	---	<5.0	<5.0	---	---	---	---	---	<5.0	---	---	<0.29	<5.0
Cadmium	ug/l	---	---	---	<10	<10	---	---	---	---	---	<10	---	---	<0.28	<10
Calcium	ug/l	---	---	---	6600	7220	---	---	---	---	---	20000	---	---	56400	60400
Chromium	ug/l	---	---	---	<15	<15	---	---	---	---	---	0.73	---	---	<15	<15
Cobalt	ug/l	---	---	---	<30	<30	---	---	---	---	---	<30	---	---	<30	<30
Copper	ug/l	---	---	---	2.3	<25	---	---	---	---	---	2.7	---	---	<25	<25
Iron	ug/l	---	---	---	<50	<50	---	---	---	---	---	<50	---	---	<50	<50
Lead	ug/l	---	---	---	<5.0	<5.0	---	---	---	---	---	<5.0	---	---	<5.0	<5.0
Magnesium	ug/l	---	---	---	1450	1680	---	---	---	---	---	4450	---	---	26200	28600
Manganese	ug/l	---	---	---	<0.82	<5.0	---	---	---	---	---	4.4	---	---	4.2	<5.0
Mercury	ug/l	---	---	---	<0.20	<0.20	---	---	---	---	---	<0.20	---	---	<0.20	0.04BJN
Nickel	ug/l	---	---	---	<40	<40	---	---	---	---	---	<40	---	---	1.4	<40
Potassium	ug/l	---	---	---	<1000	476B	---	---	---	---	---	7700	---	---	18800J	20600
Selenium	ug/l	---	---	---	<10	<10	---	---	---	---	---	<10	---	---	<10	<10
Silver	ug/l	---	---	---	<15	<15	---	---	---	---	---	<15	---	---	<15	<15
Sodium	ug/l	---	---	---	3250	3250	---	---	---	---	---	12500	---	---	22500	22500
Thallium	ug/l	---	---	---	<15	<15	---	---	---	---	---	<15	---	---	<45	<15
Vanadium	ug/l	---	---	---	<25	<25	---	---	---	---	---	<25	---	---	<25	<25
Zinc	ug/l	---	---	---	<25	<25	---	---	---	---	---	<25	---	---	<25	<25
Dissolved Inorganics																
Aluminum	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Arsenic	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Calcium	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chromium	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Lead	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Magnesium	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Manganese	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Mercury	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Sodium	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Table 7
Detected Parameters
Groundwater Samples
Hows Corner Superfund Site
Plymouth, Maine

Parameter	Units	MW-13DB	MW-13SB	MW-13SB	MW-13SB	MW-13SB	MW-14DB	MW-14DB	MW-14DB	MW-14SO	MW-14SO	MW-14SO	MW-15DB	MW-15DB	MW-15DB	MW-15DB
		9/8/2004	10/20/1999	12/21/1999	12/21/1999	5/23/2000	10/20/1999	1/5/2000	1/5/2000	10/20/1999	12/21/1999	12/21/1999	10/21/1999	12/22/1999	12/22/1999	5/22/2000
		MW-13DBDUP	MW-13SB	MW-13SB	MW-13SB	MW-13SB	MW-14DB	MW-14DB	MW-14DB	MW-14SO	MW-14SO	MW-14SO	MW-15 DB	MW-15DB	MW-15DB	MW-15DB
		Duplicate	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary
Petroleum Hydrocarbons																
TPH	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Water Quality Parameters																
Alkalinity (as CaCO3)	mg/l	—	—	—	<20	—	—	—	—	—	—	—	—	—	260	—
Bicarbonate (as CaCO3)	mg/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Chloride	mg/l	—	—	—	8.5	—	—	—	—	—	—	—	—	—	33	—
Dissolved oxygen	mg/l	—	—	3.57	—	—	—	2.06	—	—	5.2	—	—	0.31	—	—
eH	mv	—	—	217.6	—	—	—	-48.1	—	—	195.2	—	—	253	—	—
Ferric iron	mg/l	—	—	—	<0.1	—	—	—	—	—	—	—	—	—	<0.1	—
Ferrous iron	mg/l	—	—	—	<0.10	—	—	—	—	—	—	—	—	—	0.11	—
Methane	mg/l	—	—	—	<0.010	—	—	—	—	—	—	—	—	—	<0.010	—
Nitrate (as N)	mg/l	—	—	—	0.072	—	—	—	—	—	—	—	—	—	6.3	—
pH		—	—	6.09	—	—	—	7.87	—	—	6.01	—	—	7.16	—	—
Residue, filterable	mg/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Specific conductivity	umhos/cm	—	—	68	—	—	—	249	—	—	249	—	—	590	—	—
Sulfate	mg/l	—	—	—	4.4	—	—	—	—	—	—	—	—	—	17	—
Sulfide	mg/l	—	—	—	<2.0	—	—	—	—	—	—	—	—	—	<4.0	—
Temperature	cent	—	—	8.6	—	—	—	5.44	—	—	9.56	—	—	8.27	—	—
Total organic carbon	mg/l	—	—	—	1.6	—	—	—	—	—	—	—	—	—	4	—
Turbidity	ntu	—	—	2.77	—	—	—	1.67	—	—	86.9	—	—	0.52	—	—

< = not detected at reporting limit
--- = not analyzed
B = estimated (inorganics)
E = estimated
J = estimated
R = rejected
U = revised to non-detected

Table 7
Detected Parameters
Groundwater Samples
Hows Corner Superfund Site
Plymouth, Maine

Parameter	Units	MW-15DB 5/22/2000 MW-15DB DUP Duplicate	MW-15SB 10/21/1999 MW-15 SB Primary	MW-15SB 12/22/1999 MW-15SB Primary	MW-15SB 12/22/1999 MW-15SB Primary	MW-15SB 5/22/2000 MW-15SB Primary	MW-16DB 10/19/1999 MW-16DB Primary	MW-16DB 12/20/1999 MW-16DB Primary	MW-16DB 12/20/1999 MW-16DB Primary	MW-16DB 5/25/2000 MW-16DB Primary	MW-16DB 5/25/2000 MW-16DB DUP Duplicate	MW-16DB 6/9/2001 MW-16DB Primary	MW-16DB 1/18/2002 MW-16DB(63') Primary	MW-16DB 1/18/2002 MW-16DB(66') Primary	MW-16DB 1/18/2002 DUP 6 Duplicate
Total Volatile Organic Compounds															
Acetone	ug/l	<5J	<10	---	<5J	<5J	<10	—	<5J	<5	<5	<5	<5J	<5J	<5
Benzene	ug/l	<1	<5	—	<1	<1	<5	—	<1	<1	<1	<1	<1	<1	<1
2-Butanone	ug/l	<5J	<10	---	<5	<5J	<10	---	<5	<5	<5	<5	<5J	<5J	<5
n-Butylbenzene	ug/l	<1	<5	—	<1	<1	<5	—	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene	ug/l	<1	<5	—	<1	<1	<5	---	<1	<1	<1	<1	<1	<1	<1
Carbon disulfide	ug/l	<2.0	<5	---	<2.0	<2.0	<5	—	<2.0	<2.0J	<2.0J	<2.0	<2.0	<2.0	<2.0
Carbon tetrachloride	ug/l	<1	<5	---	<1	<1	<5	---	<1	<1	<1	<1J	<1	<1	<1
Chlorobenzene	ug/l	<1	<5	—	<1	<1	<5	—	<1	<1	<1	<1	<1	<1	<1
Chloroethane	ug/l	<2	<5	—	<2	<2	<5	—	<2	<2	<2	<2	<2	<2	<2
Chloroform	ug/l	<1	<5	—	<1	<1	<5	---	<1	<1	<1	<1	<1	<1	<1
Chloromethane	ug/l	<2	<5	---	<2	<2	<5	---	<2	<2	<2	<2	<2J	<2J	<2
2-Chlorotoluene	ug/l	<1	<5	—	<1	<1	<5	—	<1	<1	<1	<1	<1	<1	<1
4-Chlorotoluene	ug/l	<1	<5	---	<1	<1	<5	---	<1	<1	<1	<1	<1	<1	<1
Dibromochloromethane	ug/l	<1	<5	---	<1	<1	<5	---	<1	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	ug/l	<1	<5	—	<1	<1	<5	—	<1	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	ug/l	<1	<5	---	<1	<1	<5	—	<1	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	ug/l	<1	<5	---	<1	<1	<5	—	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	ug/l	<1	<5	—	<1	<1	<5	---	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	ug/l	<1	<5	—	<1J	<1	<5	—	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene	ug/l	---	—	—	---	---	---	---	---	---	---	---	---	---	---
cis-1,2-Dichloroethene	ug/l	<1	<5	—	<1	<1	<5	—	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	ug/l	<1	<5	—	<1	<1	<5	---	<1	<1	<1	<1	<1	<1	<1
Diethyl ether	ug/l	<2	<5	—	<2	<2	<5	—	<2	<2	<2	<2	<2	<2	<2
Ethylbenzene	ug/l	<1	<5	---	<1	<1	<5	---	<1	<1	<1	<1	<1	<1	<1
Hexachlorobutadiene	ug/l	<1J	<5	—	<1	<1J	<5	—	<1	<1J	<1J	<1	<1	<1	<1
Isopropylbenzene	ug/l	<1	<5	---	<1	<1	<5	—	<1	<1	<1	<1	<1	<1	<1
p-Isopropyltoluene	ug/l	<1	<5	---	<1	<1	<5	---	<1	<1	<1	<1	<1	<1	<1
Methylene chloride	ug/l	<1J	<5	—	<1	<2J	<5	—	<1	<1J	<1J	<1	<1	<1J	<1J
MTBE	ug/l	<1	<5	—	<1	<1	<5	—	<1	<1	<1	<1	<1	<1	<1
Naphthalene	ug/l	<1J	<5	—	<1	<1J	<5	---	<1	<1	<1	<1J	<1	<1	<1
n-Propylbenzene	ug/l	<1	<5	—	<1	<1	<5	—	<1	<1	<1	<1	<1	<1	<1
1,1,1,2-Tetrachloroethane	ug/l	<1	<5	—	<1	<1	<5	—	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	ug/l	<1J	<5	---	<1	<1J	12	—	14	16	16	15J	12	11	10
Tetrahydrofuran	ug/l	<10	<10	—	<10	<10	<10	---	<10J	<10	<10	<10	<10	<10	<10
Toluene	ug/l	<1	<5	—	<1	<1	<5	—	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichlorobenzene	ug/l	<1J	<5	—	<1	<1J	<5	—	<1	<1	<1	<1J	<1	<1	<1
1,2,4-Trichlorobenzene	ug/l	<1J	<5	---	<1	<1J	<5	—	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trichlorobenzene	ug/l	<1J	<5	—	<1	<1J	<5	—	<1	<1	<1	<1	<1	<1	<1
1,1,1-Trichloroethane	ug/l	<1	<5	—	<1	<1	6	—	5	6	6	5J	4	4	5
1,1,2-Trichloroethane	ug/l	<1	<5	—	<1	<1	<5	—	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	ug/l	<1	<5	—	<1J	<1	<5	—	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	ug/l	<2	<5	---	<2	<2	<5	—	<2	<2	<2	<2	<2	<2	<2
1,2,4-Trimethylbenzene	ug/l	<1	<5	---	<1	<1	<5	—	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene	ug/l	<1	<5	—	<1	<1	<5	---	<1	<1	<1	<1	<1	<1	<1
Vinyl chloride	ug/l	<2	<2	—	<2	<2	<2	—	<2	<2	<2	<2	<2	<2	<2
o-Xylene	ug/l	<1	<5	—	<1	<1	<5	—	<1	<1	<1	<1	<1	<1	<1
m+p-Xylenes	ug/l	<1	<5	—	<1	<1	<5	—	<1	<1	<1	<1	<1	<1	<1

Table 7
Detected Parameters
Groundwater Samples
Hows Corner Superfund Site
Plymouth, Maine

Parameter	Units	MW-15DB 5/22/2000 MW-15DB DUP Duplicate	MW-15SB 10/21/1999 MW-15 SB Primary	MW-15SB 12/22/1999 MW-15SB Primary	MW-15SB 12/22/1999 MW-15SB Primary	MW-15SB 5/22/2000 MW-15SB Primary	MW-16DB 10/19/1999 MW-16DB Primary	MW-16DB 12/20/1999 MW-16DB Primary	MW-16DB 12/20/1999 MW-16DB Primary	MW-16DB 5/25/2000 MW-16DB Primary	MW-16DB 5/25/2000 MW-16DB DUP Duplicate	MW-16DB 6/9/2001 MW-16DB Primary	MW-16DB 1/18/2002 MW-16DB(63') Primary	MW-16DB 1/18/2002 MW-16DB(66') Primary	MW-16DB 1/18/2002 DUP 6 Duplicate
Dissolved Volatile Organic Compound															
Tetrachloroethylene	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Semi-Volatile Organic Compounds															
bis(2-Ethylhexyl)phthalate	ug/l	<10	—	—	<10	<10	—	—	<10.	<10	<10J	—	—	—	—
Phenol	ug/l	<10	—	—	<10	<10	—	—	78	<10	<10	—	—	—	—
PCBs															
Aroclor 1260	ug/l	—	—	—	<0.10	—	—	—	<0.10	—	—	—	—	—	—
Dichlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Heptachlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hexachlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Nonachlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Octachlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Pentachlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tetrachlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Trichlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Pesticides															
Dieldrin	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total Inorganics															
Aluminum	ug/l	<100	—	—	<100	<100	—	—	<100	<100	<100	—	—	—	—
Antimony	ug/l	<8.0	—	—	<8.0	<8.0	—	—	<8.0	<8.0	<8.0	—	—	—	—
Arsenic	ug/l	<8.0	—	—	<8.0	<8.0	—	—	<8.0	<8.0	<8.0	—	—	—	—
Barium	ug/l	4.1B	—	—	<5.0	5.3	—	—	<5.0	<5.0	<5.0	—	—	—	—
Beryllium	ug/l	<5.0	—	—	<5.0	<5.0	—	—	<5.0	<5.0	0.62B	—	—	—	—
Cadmium	ug/l	<10	—	—	<10	<10	—	—	<10	<10	<10	—	—	—	—
Calcium	ug/l	60800	—	—	22300	29300	—	—	24800	27500	27000	—	—	—	—
Chromium	ug/l	<15	—	—	<15	<15	—	—	<15	<15	<15	—	—	—	—
Cobalt	ug/l	<30	—	—	<30	<30	—	—	<30	<30	<30	—	—	—	—
Copper	ug/l	<25	—	—	<25	<25	—	—	<25	<25	<25	—	—	—	—
Iron	ug/l	<50	—	—	<50	100	—	—	<50	<50	<50	—	—	—	—
Lead	ug/l	<5.0	—	—	<5.0	<5.0	—	—	0.91	<5.0	<5.0	—	—	—	—
Magnesium	ug/l	29100	—	—	7190	9460	—	—	9310	9820	9570	—	—	—	—
Manganese	ug/l	<5.0	—	—	<5.0	<5.0	—	—	<5.0	<5.0	<5.0	—	—	—	—
Mercury	ug/l	0.03BJN	—	—	<0.20	0.03BJN	—	—	<0.20	<0.20	<0.20	—	—	—	—
Nickel	ug/l	<40	—	—	<40	<40	—	—	<40	<40	<40	—	—	—	—
Potassium	ug/l	20900	—	—	6520J	6550	—	—	619	441B	433B	—	—	—	—
Selenium	ug/l	<10	—	—	<10	<10	—	—	<10	<10	<10	—	—	—	—
Silver	ug/l	<15	—	—	<15	<15	—	—	<15	<15	<15	—	—	—	—
Sodium	ug/l	23000	—	—	8550	10000	—	—	9060	10200	9740	—	—	—	—
Thallium	ug/l	<15	—	—	<15	<15	—	—	<15	<15	<15	—	—	—	—
Vanadium	ug/l	<25	—	—	<25	4.1B	—	—	<25	<25	<25	—	—	—	—
Zinc	ug/l	<25	—	—	10.8	<25	—	—	<25	<25	<25	—	—	—	—
Dissolved Inorganics															
Aluminum	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arsenic	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Calcium	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Chromium	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Iron	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Lead	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Magnesium	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manganese	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mercury	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sodium	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Table 7
Detected Parameters
Groundwater Samples
Hows Corner Superfund Site
Plymouth, Maine

Parameter	Units	MW-15DB 5/22/2000 MW-15DB DUP Duplicate	MW-15SB 10/21/1999 MW-15 SB Primary	MW-15SB 12/22/1999 MW-15SB Primary	MW-15SB 12/22/1999 MW-15SB Primary	MW-15SB 5/22/2000 MW-15SB Primary	MW-16DB 10/19/1999 MW-16DB Primary	MW-16DB 12/20/1999 MW-16DB Primary	MW-16DB 12/20/1999 MW-16DB Primary	MW-16DB 5/25/2000 MW-16DB Primary	MW-16DB 5/25/2000 MW-16DB DUP Duplicate	MW-16DB 6/9/2001 MW-16DB Primary	MW-16DB 1/18/2002 MW-16DB(63') Primary	MW-16DB 1/18/2002 MW-16DB(66') Primary	MW-16DB 1/18/2002 DUP 6 Duplicate
Petroleum Hydrocarbons															
TPH	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Water Quality Parameters															
Alkalinity (as CaCO3)	mg/l	—	—	—	—	—	—	—	110	—	—	—	—	—	—
Bicarbonate (as CaCO3)	mg/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Chloride	mg/l	—	—	—	—	—	—	—	15	—	—	—	—	—	—
Dissolved oxygen	mg/l	—	—	7	—	—	—	1.08	—	—	—	—	—	—	—
eH	mv	—	—	211.4	—	—	—	165.5	—	—	—	—	—	—	—
Ferric iron	mg/l	—	—	—	—	—	—	—	<0.10	—	—	—	—	—	—
Ferrous iron	mg/l	—	—	—	—	—	—	—	<0.10	—	—	—	—	—	—
Methane	mg/l	—	—	—	—	—	—	—	<0.010	—	—	—	—	—	—
Nitrate (as N)	mg/l	—	—	—	—	—	—	—	0.25	—	—	—	—	—	—
pH		—	—	6.53	—	—	—	7.36	—	—	—	—	—	—	—
Residue, filterable	mg/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Specific conductivity	umhos/cm	—	—	248	—	—	—	206	—	—	—	—	—	—	—
Sulfate	mg/l	—	—	—	—	—	—	—	5.1	—	—	—	—	—	—
Sulfide	mg/l	—	—	—	—	—	—	—	4.4	—	—	—	—	—	—
Temperature	cent	—	—	8.49	—	—	—	7.47	—	—	—	—	—	—	—
Total organic carbon	mg/l	—	—	—	—	—	—	—	<1.0	—	—	—	—	—	—
Turbidity	ntu	—	—	0.31	—	—	—	2.78	—	—	—	—	—	—	—

< = not detected at reporting limit
— = not analyzed
B = estimated (inorganics)
E = estimated
J = estimated
R = rejected
U = revised to non-detected

Table 7
Detected Parameters
Groundwater Samples
Hows Corner Superfund Site
Plymouth, Maine

Parameter	Units	MW-16DB 1/18/2002 MW-16DB(69') Primary	MW-16DB 1/18/2002 MW-16DB Primary	MW-16DB 4/16/2003 MW-16DB Primary	MW-16DB 9/8/2004 MW-16DB Primary	MW-16IB 10/19/1999 MW-16IB Primary	MW-16IB 12/20/1999 MW-16IB Primary	MW-16IB 12/20/1999 MW-16IB Primary	MW-16IB 5/25/2000 MW-16IB Primary	MW-16IB 6/9/2001 MW-16IB Primary	MW-16IB 1/18/2002 MW-16IB(14') Primary	MW-16IB 1/18/2002 MW-16IB(17.5') Primary	MW-16IB 1/18/2002 MW-16IB(20') Primary	MW-16IB 1/18/2002 MW-16IB Primary	MW-16IB 4/16/2003 MW-16IB Primary
Total Volatile Organic Compounds															
Acetone	ug/l	<5J	<5J	<5	7	<10	—	<5J	<5	<5	<5J	<5J	<5J	<5J	<5
Benzene	ug/l	<1	<1	<1	<1	<5	---	<1	<1	<1	<1	<1	<1	<1	<1
2-Butanone	ug/l	<5J	<5J	<5	<5	<10	—	<5	<5	<5	<5J	<5J	<5J	<5J	<5
n-Butylbenzene	ug/l	<1	<1	<1	<1	<5	—	<1	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene	ug/l	<1	<1	<1	<1	<5	—	<1	<1	<1	<1	<1	<1	<1	<1
Carbon disulfide	ug/l	<2.0	<2.0	<1	<1	<5	—	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	0.9J
Carbon tetrachloride	ug/l	<1	<1	<1	<1	<5	—	<1	<1	<1J	<1	<1	<1	<1	<1
Chlorobenzene	ug/l	<1	<1	<1	<1	<5	—	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	ug/l	<2	<2	<2	<2	3J	—	<2	<2	<2	<2	<2	<2	<2	<2
Chloroform	ug/l	<1	<1	<1	<1	<5	—	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane	ug/l	<2J	<2J	<2	<2	<5	—	<2	<2	<2	<2J	<2J	<2J	<2J	<2
2-Chlorotoluene	ug/l	<1	<1	<1	<1	<5	---	<1	<1	<1	<1	<1	<1	<1	<1
4-Chlorotoluene	ug/l	<1	<1	<1	<1	<5	—	<1	<1	<1	<1	<1	<1	<1	<1
Dibromochloromethane	ug/l	<1	<1	<1	<1	<5	—	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	ug/l	<1	<1	<1	<1	<5	—	<1	<1	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	ug/l	<1	<1	<1	<1	<5	---	<1	<1	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	ug/l	<1	<1	<1	<1	<5	—	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	ug/l	<1	<1	<1	<1	<5	---	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	ug/l	<1	<1	<1	0.2J	<5	---	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene	ug/l	—	—	—	—	—	---	—	—	—	—	—	—	—	—
cis-1,2-Dichloroethene	ug/l	<1	<1	<1	<1	<5	—	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	ug/l	<1	<1	<1	<1	<5	—	<1	<1	<1	<1	<1	<1	<1	<1
Diethyl ether	ug/l	<2	<2	<1J	<1	<5	—	<2	<2	<2	<2	<2	<2	<2	<1J
Ethylbenzene	ug/l	<1	<1	<1	<1	<5	---	<1	<1	<1	<1	<1	<1	<1	<1
Hexachlorobutadiene	ug/l	<1	<1	<1	<1	<5	—	<1	<1J	<1	<1	<1	<1	<1	<1
Isopropylbenzene	ug/l	<1	<1	<1	<1	<5	—	<1	<1	<1	<1	<1	<1	<1	<1
p-Isopropyltoluene	ug/l	<1	<1	<1	<1	<5	—	<1	<1	<1	<1	<1	<1	<1	<1
Methylene chloride	ug/l	<1	<1J	1	<1	<5	---	<1	<1J	<1J	<1J	<1J	<1J	<1	2
MTBE	ug/l	<1	<1	<1	<2	<5	—	0.6J	<1	<1	<1	<1	<1	<1	<1
Naphthalene	ug/l	<1	<1	<1J	<1	<5	---	<1	<1	<1J	<1	<1	<1	<1	<1J
n-Propylbenzene	ug/l	<1	<1	<1	<1	<5	—	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1,2-Tetrachloroethane	ug/l	<1	<1	<1	<1	<5	—	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	ug/l	10	9	12	13	<5	---	<1	<1	<1J	<1	<1J	<1	<1	<1
Tetrahydrofuran	ug/l	<10	<10	<10	<10	<10	—	<10J	<10	<10	<10	<10	<10	<10	<10
Toluene	ug/l	<1	<1	<1	<1	<5	—	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichlorobenzene	ug/l	<1	<1	<1J	<1	<5	—	<1	<1	<1J	<1	<1	<1	<1	<1J
1,2,4-Trichlorobenzene	ug/l	<1	<1	<1	<1	<5	—	<1	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trichlorobenzene	ug/l	<1	<1	<1	<1	<5	—	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-Trichloroethane	ug/l	4	4	4	3	<5	—	<1	<1	<1J	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	ug/l	<1	<1	<1	<1	<5	—	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	ug/l	<1	<1	<1	<1	<5	—	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	ug/l	<2	<2	<2	<2	<5	—	<2	<2	<2	<2	<2	<2	<2	<2
1,2,4-Trimethylbenzene	ug/l	<1	<1	<1	<1	<5	—	<1	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene	ug/l	<1	<1	<1	<1	<5	—	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl chloride	ug/l	<2	<2	<2	<2	<2	—	<2	<2	<2	<2	<2	<2	<2	<2
o-Xylene	ug/l	<1	<1	<1	<1	<5	---	<1	<1	<1	<1	<1	<1	<1	<1
m+p-Xylenes	ug/l	<1	<1	<1	<2	<5	---	<1	<1	<1	<1	<1	<1	<1	<1

Table 7
Detected Parameters
Groundwater Samples
Hows Corner Superfund Site
Plymouth, Maine

Parameter	Units	MW-16DB 1/18/2002 MW-16DB(69') Primary	MW-16DB 1/18/2002 MW-16DB Primary	MW-16DB 4/16/2003 MW-16DB Primary	MW-16DB 9/8/2004 MW-16DB Primary	MW-16IB 10/19/1999 MW-16IB Primary	MW-16IB 12/20/1999 MW-16IB Primary	MW-16IB 12/20/1999 MW-16IB Primary	MW-16IB 5/25/2000 MW-16IB Primary	MW-16IB 6/9/2001 MW-16IB Primary	MW-16IB 1/18/2002 MW-16IB(14') Primary	MW-16IB 1/18/2002 MW-16IB(17.5') Primary	MW-16IB 1/18/2002 MW-16IB(20') Primary	MW-16IB 1/18/2002 MW-16IB Primary	MW-16IB 4/16/2003 MW-16IB Primary
Dissolved Volatile Organic Compound															
Tetrachloroethylene	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Semi-Volatile Organic Compounds															
bis(2-Ethylhexyl)phthalate	ug/l	—	—	—	—	—	—	<10.J	<10	—	—	—	—	—	—
Phenol	ug/l	—	—	—	—	—	—	<10.J	<10	—	—	—	—	—	—
PCBs															
Aroclor 1260	ug/l	—	—	—	—	—	—	<0.10	—	—	—	—	—	—	—
Dichlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Heptachlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hexachlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Nonachlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Octachlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Pentachlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tetrachlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Trichlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Pesticides															
Dieldrin	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total Inorganics															
Aluminum	ug/l	—	—	—	—	—	—	15.6	<100	—	—	—	—	—	—
Antimony	ug/l	—	—	—	—	—	—	<8.0	<8.0	—	—	—	—	—	—
Arsenic	ug/l	—	—	<1.80J	—	—	—	<8.0	<8.0	—	—	—	—	—	<1.80J
Barium	ug/l	—	—	—	—	—	—	<5.0	<5.0	—	—	—	—	—	—
Beryllium	ug/l	—	—	—	—	—	—	<5.0	<5.0	—	—	—	—	—	—
Cadmium	ug/l	—	—	—	—	—	—	<10	<10	—	—	—	—	—	—
Calcium	ug/l	—	—	—	—	—	—	11800	13300	—	—	—	—	—	—
Chromium	ug/l	—	—	—	—	—	—	<15	<15	—	—	—	—	—	—
Cobalt	ug/l	—	—	—	—	—	—	<30	<30	—	—	—	—	—	—
Copper	ug/l	—	—	—	—	—	—	<25	<25	—	—	—	—	—	—
Iron	ug/l	—	—	—	—	—	—	<50	<50	—	—	—	—	—	—
Lead	ug/l	—	—	—	—	—	—	0.87	1.6B	—	—	—	—	—	—
Magnesium	ug/l	—	—	—	—	—	—	3630	3810	—	—	—	—	—	—
Manganese	ug/l	—	—	<0.15	—	—	—	<5.0	<5.0	—	—	—	—	—	<0.20U
Mercury	ug/l	—	—	—	—	—	—	<0.20	0.04B	—	—	—	—	—	—
Nickel	ug/l	—	—	—	—	—	—	<40	<40	—	—	—	—	—	—
Potassium	ug/l	—	—	—	—	—	—	<1000	<1000	—	—	—	—	—	—
Selenium	ug/l	—	—	—	—	—	—	<10	<10	—	—	—	—	—	—
Silver	ug/l	—	—	—	—	—	—	<15	<15	—	—	—	—	—	—
Sodium	ug/l	—	—	—	—	—	—	9150	9170	—	—	—	—	—	—
Thallium	ug/l	—	—	—	—	—	—	<15	<15	—	—	—	—	—	—
Vanadium	ug/l	—	—	—	—	—	—	<25	<25	—	—	—	—	—	—
Zinc	ug/l	—	—	—	—	—	—	<25	<25	—	—	—	—	—	—
Dissolved Inorganics															
Aluminum	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arsenic	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Calcium	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Chromium	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Iron	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Lead	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Magnesium	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manganese	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mercury	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sodium	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Table 7
Detected Parameters
Groundwater Samples
Hows Corner Superfund Site
Plymouth, Maine

Parameter	Units	MW-16DB 1/18/2002 MW-16DB(69') Primary	MW-16DB 1/18/2002 MW-16DB Primary	MW-16DB 4/16/2003 MW-16DB Primary	MW-16DB 9/8/2004 MW-16DB Primary	MW-16IB 10/19/1999 MW-16IB Primary	MW-16IB 12/20/1999 MW-16IB Primary	MW-16IB 12/20/1999 MW-16IB Primary	MW-16IB 5/25/2000 MW-16IB Primary	MW-16IB 6/9/2001 MW-16IB Primary	MW-16IB 1/18/2002 MW-16IB(14') Primary	MW-16IB 1/18/2002 MW-16IB(17.5') Primary	MW-16IB 1/18/2002 MW-16IB(20') Primary	MW-16IB 1/18/2002 MW-16IB Primary	MW-16IB 4/16/2003 MW-16IB Primary
Petroleum Hydrocarbons															
TPH	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Water Quality Parameters															
Alkalinity (as CaCO3)	mg/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Bicarbonate (as CaCO3)	mg/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Chloride	mg/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Dissolved oxygen	mg/l	—	—	—	—	—	2.58	—	—	—	—	—	—	—	—
eH	mv	—	—	—	—	—	163	—	—	—	—	—	—	—	—
Ferric iron	mg/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ferrous iron	mg/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Methane	mg/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Nitrate (as N)	mg/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
pH		—	—	—	—	—	6.32	—	—	—	—	—	—	—	—
Residue, filterable	mg/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Specific conductivity	umhos/cm	—	—	—	—	—	87	—	—	—	—	—	—	—	—
Sulfate	mg/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sulfide	mg/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Temperature	cent	—	—	—	—	—	7.83	—	—	—	—	—	—	—	—
Total organic carbon	mg/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Turbidity	ntu	—	—	—	—	—	1.59	—	—	—	—	—	—	—	—

< = not detected at reporting limit
— = not analyzed
B = estimated (inorganics)
E = estimated
J = estimated
R = rejected
U = revised to non-detected

Table 7
Detected Parameters
Groundwater Samples
Hows Corner Superfund Site
Plymouth, Maine

Parameter	Units	MW-16IB 9/8/2004 MW-16IB Primary	MW-16SO 10/19/1999 MW-16SO Primary	MW-16SO 12/20/1999 MW-16SO Primary	MW-16SO 12/20/1999 MW-16SO Primary	MW-17DO 10/21/1999 MW-17 DO Primary	MW-17DO 1/5/2000 MW-17DO Primary	MW-17DO 1/5/2000 MW-17DO Primary	MW-17DO 5/22/2000 MW-17DO Primary	MW-17SO 10/21/1999 MW-17 SO Primary	MW-17SO 1/5/2000 MW-17SO Primary	MW-17SO 1/5/2000 MW-17SO Primary	MW-17SO 5/22/2000 MW-17SO Primary	MW-17SO 5/25/2000 MW-17SO Primary	MW-101D 1/4/2000 MW-101D Primary	MW-101D 1/4/2000 MW-101D Primary
Total Volatile Organic Compounds																
Acetone	ug/l	<5	<10	—	<5J	<10	—	<5J	<5	<10	—	<5	<5	—	—	<5J
Benzene	ug/l	<1	<5	—	<1	<5	—	<1	<1	<5	—	<1	<1	—	—	<1
2-Butanone	ug/l	<5	<10	—	<5	<10	—	<5	<5	<10	—	<5	<5	—	—	<5
n-Butylbenzene	ug/l	<1	<5	—	<1	<5	—	<1	<1	<5	—	<1	<1	—	—	<1
sec-Butylbenzene	ug/l	<1	<5	—	<1	<5	—	<1	<1	<5	—	<1	<1	—	—	<1
Carbon disulfide	ug/l	<1	<5	—	<2.0	<5	—	<2.0	<2.0	<5	—	<2.0	<2.0	—	—	<2.0
Carbon tetrachloride	ug/l	<1	<5	—	<1	<5	—	<1	<1	<5	—	<1	<1	—	—	<1
Chlorobenzene	ug/l	<1	<5	—	<1	<5	—	<1	<1	<5	—	<1	<1	—	—	<1
Chloroethane	ug/l	<2	<5	—	<2	<5	—	<2	<2	<5	—	<2	<2	—	—	<2J
Chloroform	ug/l	<1	<5	—	<1	<5	—	<1	<1	<5	—	<1	<1	—	—	<1
Chloromethane	ug/l	<2	<5	—	<2	<5	—	<2	<2	<5	—	<2	<2	—	—	<2
2-Chlorotoluene	ug/l	<1	<5	—	<1	<5	—	<1	<1	<5	—	<1	<1	—	—	<1
4-Chlorotoluene	ug/l	<1	<5	—	<1	<5	—	<1	<1	<5	—	<1	<1	—	—	<1
Dibromochloromethane	ug/l	<1	<5	—	<1	<5	—	<1	<1	<5	—	<1	<1	—	—	<1
1,2-Dichlorobenzene	ug/l	<1	<5	—	<1	<5	—	<1	<1	<5	—	<1	<1	—	—	<1
1,3-Dichlorobenzene	ug/l	<1	<5	—	<1	<5	—	<1	<1	<5	—	<1	<1	—	—	<1
1,4-Dichlorobenzene	ug/l	<1	<5	—	<1	<5	—	<1	<1	<5	—	<1	<1	—	—	<1
1,1-Dichloroethane	ug/l	<1	<5	—	<1	<5	—	<1	<1	<5	—	<1	<1	—	—	0.6J
1,1-Dichloroethene	ug/l	<1	<5	—	<1	<5J	—	<1	<1	<5J	—	<1	<1	—	—	0.5J
1,2-Dichloroethene	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
cis-1,2-Dichloroethene	ug/l	<1	<5	—	<1	<5	—	<1	<1	<5	—	<1	<1	—	—	60
trans-1,2-Dichloroethene	ug/l	<1	<5	—	<1	<5	—	<1	<1	<5	—	<1	<1	—	—	1
Diethyl ether	ug/l	<1	<5	—	<2	<5	—	<2	<2	<5	—	<2	<2	—	—	<2
Ethylbenzene	ug/l	<1	<5	—	<1	<5	—	<1	<1	<5	—	<1	<1	—	—	<1
Hexachlorobutadiene	ug/l	<1	<5	—	<1	<5	—	<1	<1J	<5	—	<1	<1J	—	—	<1
Isopropylbenzene	ug/l	<1	<5	—	<1	<5	—	<1	<1	<5	—	<1	<1	—	—	<1
p-Isopropyltoluene	ug/l	<1	<5	—	<1	<5	—	<1	<1	<5	—	<1	<1	—	—	<1
Methylene chloride	ug/l	<1	<5	—	<1	<5	—	<1	<1J	<5	—	<1	<1J	—	—	<1J
MTBE	ug/l	<2	<5	—	<1	<5	—	<1	<1	<5	—	<1	<1	—	—	<1
Naphthalene	ug/l	<1	<5	—	<1	<5	—	<1	<1	<5	—	<1	<1	—	—	<1
n-Propylbenzene	ug/l	<1	<5	—	<1	<5	—	<1	<1	<5	—	<1	<1	—	—	<1
1,1,1,2-Tetrachloroethane	ug/l	<1	<5	—	<1	<5	—	<1	<1	<5	—	<1	<1	—	—	<1
Tetrachloroethene	ug/l	<1	<5	—	<1	<5	—	<1	<1	<5	—	<2	<1	—	—	600
Tetrahydrofuran	ug/l	<10	<10	—	<10J	<10	—	<10J	<10	<10	—	<10	<10	—	—	<10J
Toluene	ug/l	<1	<5	—	<1	<5	—	<1	<1	<5	—	<1	<1	—	—	<1
1,2,3-Trichlorobenzene	ug/l	<1	<5	—	<1	<5	—	<1	<1	<5	—	<1	<1	—	—	<1
1,2,4-Trichlorobenzene	ug/l	<1	<5	—	<1	<5	—	<1	<1	<5	—	<1	<1	—	—	<1
1,3,5-Trichlorobenzene	ug/l	<1	<5	—	<1	<5	—	<1	<1	<5	—	<1	<1	—	—	<1
1,1,1-Trichloroethane	ug/l	<1	<5	—	<1	<5	—	<1	<1	<5	—	<1	<1	—	—	8
1,1,2-Trichloroethane	ug/l	<1	<5	—	<1	<5	—	<1	<1	<5	—	<1	<1	—	—	<1
Trichloroethene	ug/l	<1	<5	—	<1	<5J	—	<1	<1	<5J	—	<1	<1	—	—	220
Trichlorofluoromethane	ug/l	<2	<5	—	<2	<5	—	<2	<2	<5	—	<2	<2	—	—	<2J
1,2,4-Trimethylbenzene	ug/l	<1	<5	—	<1	<5	—	<1	<1	<5	—	<1	<1	—	—	<1
1,3,5-Trimethylbenzene	ug/l	<1	<5	—	<1	<5	—	<1	<1	<5	—	<1	<1	—	—	<1
Vinyl chloride	ug/l	<2	<2	—	<2	<2	—	<2	<2	<2	—	<2	<2	—	—	<2
o-Xylene	ug/l	<1	<5	—	<1	<5	—	<1	<1	<5	—	<1	<1	—	—	<1
m+p-Xylenes	ug/l	<2	<5	—	<1	<5	—	<1	<1	<5	—	<1	<1	—	—	<1

Table 7
Detected Parameters
Groundwater Samples
Hows Corner Superfund Site
Plymouth, Maine

Parameter	Units	MW-16IB 9/8/2004 MW-16IB Primary	MW-16SO 10/19/1999 MW-16SO Primary	MW-16SO 12/20/1999 MW-16SO Primary	MW-16SO 12/20/1999 MW-16SO Primary	MW-17DO 10/21/1999 MW-17 DO Primary	MW-17DO 1/5/2000 MW-17DO Primary	MW-17DO 1/5/2000 MW-17DO Primary	MW-17DO 5/22/2000 MW-17DO Primary	MW-17SO 10/21/1999 MW-17 SO Primary	MW-17SO 1/5/2000 MW-17SO Primary	MW-17SO 1/5/2000 MW-17SO Primary	MW-17SO 5/22/2000 MW-17SO Primary	MW-17SO 5/25/2000 MW-17SO Primary	MW-101D 1/4/2000 MW-101D Primary	MW-101D 1/4/2000 MW-101D Primary
Dissolved Volatile Organic Compound																
Tetrachloroethylene	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	0.6J	—	—
Semi-Volatile Organic Compounds																
bis(2-Ethylhexyl)phthalate	ug/l	—	—	—	<11.	—	—	<10	<10	—	—	<10	<10	—	—	<10
Phenol	ug/l	—	—	—	<11.	—	—	<10	<10	—	—	<10	<10	—	—	<10
PCBs																
Aroclor 1260	ug/l	—	—	—	<0.10	—	—	<0.1	—	—	—	<0.1	—	—	—	<0.1
Dichlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Heptachlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hexachlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Nonachlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Octachlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Pentachlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tetrachlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Trichlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Pesticides																
Dieldrin	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total Inorganics																
Aluminum	ug/l	—	—	—	<100	—	—	<100	<100	—	—	150	11200	—	—	<100
Antimony	ug/l	—	—	—	<8.0	—	—	<8.0	<8.0	—	—	<8.0	<8.0	—	—	<8.0
Arsenic	ug/l	—	—	—	<8.0	—	—	<8.0	<8.0	—	—	<8.0	13.2	—	—	<8.0
Barium	ug/l	—	—	—	<5.0	—	—	<5.0	<5.0	—	—	<5.0	41.4	—	—	<5.0
Beryllium	ug/l	—	—	—	<5.0	—	—	<5.0	<5.0	—	—	<5.0	<5.0	—	—	0.36
Cadmium	ug/l	—	—	—	<10	—	—	<10	<10	—	—	<10	<10	—	—	<10
Calcium	ug/l	—	—	—	3380	—	—	15700	14100	—	—	29100	29400	—	—	19400
Chromium	ug/l	—	—	—	<15	—	—	1.6	<15	—	—	1	21.9	—	—	0.94
Cobalt	ug/l	—	—	—	<30	—	—	<30	<30	—	—	<30	10.4B	—	—	<30
Copper	ug/l	—	—	—	2.8	—	—	<25	<25	—	—	2.6	19.4B	—	—	<25
Iron	ug/l	—	—	—	<50	—	—	<50	<50	—	—	354	20800	—	—	<50
Lead	ug/l	—	—	—	1.5	—	—	<5.0	<5.0	—	—	<5.0	<5.0	—	—	<5.0
Magnesium	ug/l	—	—	—	566	—	—	1050	798	—	—	2220	5030	—	—	5120
Manganese	ug/l	—	—	—	<5.0	—	—	6.9	9.1	—	—	8.8	528	—	—	32.2
Mercury	ug/l	—	—	—	<0.20	—	—	<0.20	<0.20N	—	—	<0.20	0.04BJN	—	—	0.03
Nickel	ug/l	—	—	—	<40	—	—	<40	<40	—	—	<40	32.3B	—	—	<40
Potassium	ug/l	—	—	—	397	—	—	<1000	<1000	—	—	<1000	2020	—	—	451
Selenium	ug/l	—	—	—	<10	—	—	<10	<10	—	—	<10	<10	—	—	<10
Silver	ug/l	—	—	—	<15	—	—	<15	<15	—	—	<15	<15	—	—	<1.8
Sodium	ug/l	—	—	—	2640	—	—	2220	1310	—	—	2310	2570	—	—	3260
Thallium	ug/l	—	—	—	<15	—	—	<15	<15	—	—	<15	<15	—	—	<15
Vanadium	ug/l	—	—	—	<25	—	—	<25	<25	—	—	<25	17.8B	—	—	<25
Zinc	ug/l	—	—	—	<25	—	—	<25	<25	—	—	<25	47.7	—	—	125
Dissolved Inorganics																
Aluminum	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	633	—	—
Arsenic	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	2.1B	—	—
Calcium	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	25200	—	—
Chromium	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	1.6B	—	—
Iron	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	944	—	—
Lead	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	2.1B	—	—
Magnesium	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	1440	—	—
Manganese	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	28.7	—	—
Mercury	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	0.08B	—	—
Sodium	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	2200	—	—

Table 7
Detected Parameters
Groundwater Samples
Hows Corner Superfund Site
Plymouth, Maine

Parameter	Units	MW-16IB 9/8/2004 MW-16IB Primary	MW-16SO 10/19/1999 MW-16SO Primary	MW-16SO 12/20/1999 MW-16SO Primary	MW-16SO 12/20/1999 MW-16SO Primary	MW-17DO 10/21/1999 MW-17 DO Primary	MW-17DO 1/5/2000 MW-17DO Primary	MW-17DO 1/5/2000 MW-17DO Primary	MW-17DO 5/22/2000 MW-17DO Primary	MW-17SO 10/21/1999 MW-17 SO Primary	MW-17SO 1/5/2000 MW-17SO Primary	MW-17SO 1/5/2000 MW-17SO Primary	MW-17SO 5/22/2000 MW-17SO Primary	MW-17SO 5/25/2000 MW-17SO Primary	MW-101D 1/4/2000 MW-101D Primary	MW-101D 1/4/2000 MW-101D Primary
Petroleum Hydrocarbons																
TPH	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Water Quality Parameters																
Alkalinity (as CaCO3)	mg/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Bicarbonate (as CaCO3)	mg/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Chloride	mg/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Dissolved oxygen	mg/l	—	—	2.39	—	—	0.3	—	—	—	0.33	—	—	—	0.05	—
eH	mv	—	—	144.2	—	—	114.2	—	—	—	152.2	—	—	—	35.2	—
Ferric iron	mg/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ferrous iron	mg/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Methane	mg/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Nitrate (as N)	mg/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
pH		—	—	5.94	—	—	8.94	—	—	—	7.15	—	—	—	6.92	—
Residue, filterable	mg/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Specific conductivity	umhos/cm	—	—	43	—	—	79	—	—	—	153	—	—	—	155	—
Sulfate	mg/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sulfide	mg/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Temperature	cent	—	—	5.17	—	—	7.18	—	—	—	4.06	—	—	—	7.88	—
Total organic carbon	mg/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Turbidity	ntu	—	—	4.72	—	—	18.9	—	—	—	16	—	—	—	3.9	—

< = not detected at reporting limit
— = not analyzed
B = estimated (inorganics)
E = estimated
J = estimated
R = rejected
U = revised to non-detected

Table 7
Detected Parameters
Groundwater Samples
Hows Corner Superfund Site
Plymouth, Maine

Parameter	Units	MW-101D 5/24/2000 MW-101D Primary	MW-101I 1/4/2000 MW-101I Primary	MW-101I 1/4/2000 MW-101I Primary	MW-101I 1/4/2000 MW-101I DUP Duplicate	MW-101I 5/24/2000 MW-101I Primary	MW-101S 1/4/2000 MW-101S Primary	MW-101S 1/4/2000 MW-101S Primary	MW-101S 5/24/2000 MW-101S Primary	MW-102D 1/5/2000 MW-102D Primary	MW-102D 1/5/2000 MW-102D Primary	MW-102D 1/5/2000 MW-102D DUP Duplicate	MW-102D 5/23/2000 MW-102D Primary	MW-102S 1/4/2000 MW-102S Primary	MW-102S 1/4/2000 MW-102S Primary	MW-102S 5/23/2000 MW-102S Primary
Total Volatile Organic Compounds																
Acetone	ug/l	<5	---	<5J	<5J	<5	---	<5.J	<5	---	<5J	---	<5J	---	<5J	<5J
Benzene	ug/l	<1	---	<1	<1	0.6J	---	0.6J	<1	---	<1	---	<1	---	<1	<1
2-Butanone	ug/l	<5	---	<5	<5	<5	---	<5	<5	---	<5	---	<5	---	<5	<5
n-Butylbenzene	ug/l	<1	---	<1	<1	<1	---	<1.	<1	---	<1	---	<1	---	<1	<1
sec-Butylbenzene	ug/l	<1	---	<1	<1	<1	---	<1.	<1	---	<1	---	<1	---	<1	<1
Carbon disulfide	ug/l	<2.0	---	<2.0	<2.0	<2.0	---	<2.	<2.0	---	<2.0	---	<2.0	---	<2.0	<2.0
Carbon tetrachloride	ug/l	<1	---	<1	<1	<1	---	<1.	<1	---	<1	---	<1	---	<1	<1
Chlorobenzene	ug/l	<1	---	<1	<1	<1	---	<1.	<1	---	<1	---	<1	---	<1	<1
Chloroethane	ug/l	<2	---	<2J	<2J	<2	---	<2.J	<2	---	<2	---	<2	---	<2J	<2
Chloroform	ug/l	<1	---	<1	<1	<1	---	<1.	<1	---	<1	---	<1	---	<1	<1
Chloromethane	ug/l	<2	---	<2	<2	<2	---	<2.	<2	---	<2	---	<2	---	<2	<2
2-Chlorotoluene	ug/l	<1	---	<1	<1	<1	---	<1.	<1	---	<1	---	<1	---	<1	<1
4-Chlorotoluene	ug/l	<1	---	<1	<1	<1	---	<1.	<1	---	<1	---	<1	---	<1	<1
Dibromochloromethane	ug/l	<1	---	<1	<1	<1	---	<1.	<1	---	<1	---	<1	---	<1	<1
1,2-Dichlorobenzene	ug/l	<1	---	<1	<1	<1	---	<1.	<1	---	<1	---	<1	---	<1	<1
1,3-Dichlorobenzene	ug/l	<1	---	<1	<1	<1	---	<1.	<1	---	<1	---	<1	---	<1	<1
1,4-Dichlorobenzene	ug/l	<1	---	<1	<1	<1	---	<1.	<1	---	<1	---	<1	---	<1	<1
1,1-Dichloroethane	ug/l	0.6J	---	0.8J	0.7J	2	---	2	<1	---	0.6J	---	<1	---	2	1
1,1-Dichloroethene	ug/l	<1	---	0.5J	<1	0.6J	---	0.8J	<1	---	2	---	2	---	8	4
1,2-Dichloroethene	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
cis-1,2-Dichloroethene	ug/l	90	---	420	390	370	---	260	630	---	21	---	22	---	21	20
trans-1,2-Dichloroethene	ug/l	1	---	11	10	7	---	7	7	---	<1	---	<1	---	<1	<1
Diethyl ether	ug/l	<2	---	<2	<2	<2	---	<2.	<2	---	<2	---	<2	---	<2	<2
Ethylbenzene	ug/l	<1	---	<1	<1	<1	---	<1.	<1	---	<1	---	<1	---	<1	<1
Hexachlorobutadiene	ug/l	<1	---	<1	<1	<1	---	<1.	<1	---	<1	---	<1	---	<1	<1
Isopropylbenzene	ug/l	<1	---	<1	<1	<1	---	<1.	<1	---	<1	---	<1	---	<1	<1
p-Isopropyltoluene	ug/l	<1	---	<1	<1	<1	---	<1.	<1	---	<1	---	<1	---	<1	<1
Methylene chloride	ug/l	<1J	---	<1J	<1J	<1J	---	<1.J	<1J	---	<1	---	<1J	---	<1	<1J
MTBE	ug/l	<1	---	<1	<1	<1	---	<1.	<1	---	<1	---	<1	---	<1	<1
Naphthalene	ug/l	<1	---	<1	<1	<1	---	<1.	<1	---	<2	---	<1J	---	<1	<1J
n-Propylbenzene	ug/l	<1	---	<1	<1	<1	---	<1.	<1	---	<1	---	<1	---	<1	<1
1,1,1,2-Tetrachloroethane	ug/l	<1	---	<1	<1	<1	---	<1.	<1	---	<1	---	<1	---	<1	<1
Tetrachloroethene	ug/l	540	---	410	960	1700	---	2100	460	---	1700J	---	1200	---	4800	4100
Tetrahydrofuran	ug/l	<10	---	<10J	<10J	<10	---	<10J	<10	---	<10J	---	<10	---	<10J	<10
Toluene	ug/l	<1	---	<1	<1	<1	---	<1.	<1	---	<1	---	<1	---	<1	<1
1,2,3-Trichlorobenzene	ug/l	<1	---	<1	<1	<1	---	0.6J	<1	---	<1	---	<1	---	0.7J	<1
1,2,4-Trichlorobenzene	ug/l	<1	---	<1	<1	<1	---	1	<1	---	<1	---	<1	---	2	<1
1,3,5-Trichlorobenzene	ug/l	<1	---	<1	<1	<1	---	<1.	<1	---	<1	---	<1	---	<1	<1
1,1,1-Trichloroethane	ug/l	6	---	3	4	9	---	10	1	---	22	---	14	---	54	40
1,1,2-Trichloroethane	ug/l	<1	---	<1	<1	<1	---	<1.	<1	---	<1	---	<1	---	<1	<1
Trichloroethene	ug/l	280	---	1100	1500	1200	---	1100	530	---	120	---	120	---	150	170
Trichlorofluoromethane	ug/l	<2J	---	<2J	<2J	<2J	---	<2.J	<2J	---	<2	---	<2	---	<2J	<2
1,2,4-Trimethylbenzene	ug/l	<1	---	<1	<1	<1	---	<1.	<1	---	0.6J	---	<1	---	<1	<1
1,3,5-Trimethylbenzene	ug/l	<1	---	<1	<1	<1	---	<1.	<1	---	0.5J	---	<1	---	<1	<1
Vinyl chloride	ug/l	<2	---	<2	<2	<2	---	<2.	<2	---	<2	---	<2	---	<2	<2
o-Xylene	ug/l	<1	---	<1	<1	<1	---	<1.	<1	---	<1	---	<1	---	<1	<1
m+p-Xylenes	ug/l	<1	---	<1	<1	<1	---	<1.	<1	---	<1	---	<1	---	<1	<1

Table 7
Detected Parameters
Groundwater Samples
Hows Corner Superfund Site
Plymouth, Maine

Parameter	Units	MW-101D 5/24/2000 MW-101D Primary	MW-101I 1/4/2000 MW-101I Primary	MW-101I 1/4/2000 MW-101I Primary	MW-101I 1/4/2000 MW-101I DUP Duplicate	MW-101I 5/24/2000 MW-101I Primary	MW-101S 1/4/2000 MW-101S Primary	MW-101S 1/4/2000 MW-101S Primary	MW-101S 5/24/2000 MW-101S Primary	MW-102D 1/5/2000 MW-102D Primary	MW-102D 1/5/2000 MW-102D Primary	MW-102D 1/5/2000 MW-102D DUP Duplicate	MW-102D 5/23/2000 MW-102D Primary	MW-102S 1/4/2000 MW-102S Primary	MW-102S 1/4/2000 MW-102S Primary	MW-102S 5/23/2000 MW-102S Primary
Dissolved Volatile Organic Compound																
Tetrachloroethylene	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Semi-Volatile Organic Compounds																
bis(2-Ethylhexyl)phthalate	ug/l	<10	—	<10	<10	<10	—	<10	<10J	—	5J	—	<10	—	<10.	<10
Phenol	ug/l	<10	—	<10	<10	<10	—	<10	<10J	—	<10	—	<10	—	<10.J	<10
PCBs																
Aroclor 1260	ug/l	—	—	<0.1	<0.1	—	—	<0.1	—	—	<0.1	—	—	—	<0.1	—
Dichlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Heptachlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hexachlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Nonachlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Octachlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Pentachlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tetrachlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Trichlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Pesticides																
Dieldrin	ug/l	—	—	—	—	—	—	<0.10	—	—	<0.11	<0.10	—	—	—	—
Total Inorganics																
Aluminum	ug/l	<100	—	<100	<100	<100	—	<100	<100	—	<100	—	<100	—	<100	<100
Antimony	ug/l	<8.0	—	<8.0	<8.0	<8.0	—	<8.0	<8.0	—	<8.0	—	<8.0	—	<8.0	<8.0
Arsenic	ug/l	<8.0	—	<8.0	<8.0	<8.0	—	<8.0	<8.0	—	<8.0	—	<8.0	—	<8.0	<8.0
Barium	ug/l	<5.0	—	138	139	<5.0	—	<5.0	87.1J	—	<5.0	—	<5.0	—	<5.0	<5.0
Beryllium	ug/l	<5.0	—	<5.0	<5.0	<5.0	—	<5.0	<5.0	—	<5.0	—	<5.0	—	<5.0	<5.0
Cadmium	ug/l	<10	—	<10	<10	<10	—	<10	<10	—	<10	—	<10	—	<10	<10
Calcium	ug/l	19700	—	23100	23600	24100	—	23800	21200	—	25900	—	24900	—	15900	16800
Chromium	ug/l	<15	—	2	1.9	<15	—	<15	<15	—	<15	—	<15	—	<15	<15
Cobalt	ug/l	<30	—	11.1	10.5	<30	—	0.76	15.5B	—	<30	—	<30	—	<30	<30
Copper	ug/l	<25	—	<25	<25	<25	—	<25	<25	—	<25	—	<25	—	<25	<25
Iron	ug/l	<50	—	1140	1010	<50	—	<50	2270	—	<50	—	12.5	—	<50	<50
Lead	ug/l	<5.0	—	<5.0	<5.0	<5.0	—	<5.0	<5.0	—	<5.0	—	<5.0	—	<5.0	<5.0
Magnesium	ug/l	5990	—	5070	5080	11200	—	10500	5510	—	6120	—	6250	—	5130	5790
Manganese	ug/l	24.9	—	7350	7070	192	—	265	8540	—	<5.0	—	2.9B	—	7.1	5.7
Mercury	ug/l	<0.20	—	0.04	<0.20	0.02B	—	<0.20	<0.20	—	<0.20	—	<0.20	—	0.04	<0.20
Nickel	ug/l	<40	—	11.9	11.5	<40	—	<40	<40	—	<40	—	<40	—	<40	<40
Potassium	ug/l	<1000	—	<1000	681	<1000	—	<1000	<1000	—	<1000	—	544B	—	<1000	<1000
Selenium	ug/l	<10	—	<10	<10	<10	—	<10	<10	—	<10	—	<10	—	<10	<10
Silver	ug/l	<15	—	1.5	1.2	<15	—	<15	3.0B	—	<15	—	<15	—	8.5	<15
Sodium	ug/l	2540	—	5090	5200	2880	—	4400	3240	—	2620	—	2420	—	2990	2920
Thallium	ug/l	<15	—	<15	<15	<15	—	<15	<15	—	<15	—	<15	—	<15	<15
Vanadium	ug/l	<25	—	<25	<25	<25	—	<25	<25	—	<25	—	<25	—	<25	<25
Zinc	ug/l	13.1B	—	5.4	11.5	2.0B	—	4.5	6.1B	—	<25	—	1.7B	—	7.2	<25
Dissolved Inorganics																
Aluminum	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arsenic	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Calcium	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Chromium	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Iron	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Lead	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Magnesium	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manganese	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mercury	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sodium	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Table 7
Detected Parameters
Groundwater Samples
Hows Corner Superfund Site
Plymouth, Maine

Parameter	Units	MW-101D 5/24/2000 MW-101D Primary	MW-101I 1/4/2000 MW-101I Primary	MW-101I 1/4/2000 MW-101I Primary	MW-101I 1/4/2000 MW-101I DUP Duplicate	MW-101I 5/24/2000 MW-101I Primary	MW-101S 1/4/2000 MW-101S Primary	MW-101S 1/4/2000 MW-101S Primary	MW-101S 5/24/2000 MW-101S Primary	MW-102D 1/5/2000 MW-102D Primary	MW-102D 1/5/2000 MW-102D Primary	MW-102D 1/5/2000 MW-102D DUP Duplicate	MW-102D 5/23/2000 MW-102D Primary	MW-102S 1/4/2000 MW-102S Primary	MW-102S 1/4/2000 MW-102S Primary	MW-102S 5/23/2000 MW-102S Primary
Petroleum Hydrocarbons																
TPH	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Water Quality Parameters																
Alkalinity (as CaCO3)	mg/l	---	---	100	100	---	---	---	---	---	96	---	---	---	---	---
Bicarbonate (as CaCO3)	mg/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chloride	mg/l	---	---	3.5	3.2	---	---	---	---	---	<2.0	---	---	---	---	---
Dissolved oxygen	mg/l	---	-0.03	---	---	---	0.1	---	---	1.35	---	---	---	1.92	---	---
eH	mv	---	-30	---	---	---	18.1	---	---	241.3	---	---	---	179.4	---	---
Ferric iron	mg/l	---	---	<0.1	<0.1	---	---	---	---	---	<0.1	---	---	---	---	---
Ferrous iron	mg/l	---	---	1.3	1.5	---	---	---	---	---	<0.10	---	---	---	---	---
Methane	mg/l	---	---	0.12	0.11	---	---	---	---	---	<0.010	---	---	---	---	---
Nitrate (as N)	mg/l	---	---	<0.050	<0.050	---	---	---	---	---	0.093	---	---	---	---	---
pH		---	6.6	---	---	---	6.79	---	---	6.98	---	---	---	6.92	---	---
Residue, filterable	mg/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Specific conductivity	umhos/cm	---	225	---	---	---	199	---	---	167	---	---	---	131	---	---
Sulfate	mg/l	---	---	5.5	5.6	---	---	---	---	---	4.6	---	---	---	---	---
Sulfide	mg/l	---	---	<4.0	<4.0	---	---	---	---	---	<4.0	---	---	---	---	---
Temperature	cent	---	7.95	---	---	---	8.07	---	---	7.38	---	---	---	7.67	---	---
Total organic carbon	mg/l	---	---	13	13	---	---	---	---	---	2.8	---	---	---	---	---
Turbidity	ntu	---	75.7	---	---	---	3.12	---	---	0.42	---	---	---	10.6	---	---

< = not detected at reporting limit
--- = not analyzed
B = estimated (inorganics)
E = estimated
J = estimated
R = rejected
U = revised to non-detected

Table 7
Detected Parameters
Groundwater Samples
Hows Corner Superfund Site
Plymouth, Maine

Parameter	Units	MW-102S 9/9/2004 MW-102S Primary	MW-103D 1/5/2000 MW-103D Primary	MW-103D 1/5/2000 MW-103D Primary	MW-103D 5/24/2000 MW-103D Primary	MW-103D 9/9/2004 MW-103D Primary	MW-103S 1/5/2000 MW-103S Primary	MW-103S 1/5/2000 MW-103S Primary	MW-103S 5/24/2000 MW-103S Primary	MW-103S 5/24/2000 MW-103S DUP Duplicate	MW-103S 9/9/2004 MW-103S Primary	MW-104D 1/4/2000 MW-104D Primary	MW-104D 1/4/2000 MW-104D Primary	MW-104D 5/24/2000 MW-104D Primary	MW-104D 9/9/2004 MW-104D Primary	MW-104I 1/4/2000 MW-104I Primary
Total Volatile Organic Compounds																
Acetone	ug/l	4J	—	<5J	<5.	11	—	<5	<5	<5	2J	—	<100J	<5	2J	—
Benzene	ug/l	<1	—	<1	<1.	0.1J	—	<1	<1	<1	<1	—	<20	<1	<1	—
2-Butanone	ug/l	<5	—	<5	<5.	<5	—	<5	<5	<5	<5	—	<100	<5	<5	—
n-Butylbenzene	ug/l	<1	—	<1	<1.	<1	—	<1	<1	<1	<1	—	<20	<1	<1	—
sec-Butylbenzene	ug/l	<1	—	<1	<1.	<1	—	<1	<1	<1	<1	—	<20	<1	<1	—
Carbon disulfide	ug/l	<1	—	<2.0	<2.	<1	—	<2.0	<2.0	<2.0	<1	—	<40	<2.0	<1	—
Carbon tetrachloride	ug/l	<1	—	<1	<1.	<1	—	<1	<1	<1	<1	—	<20	<1	<1	—
Chlorobenzene	ug/l	<1	—	1	2	1	—	0.9J	<1	<1	0.3J	—	<20	<1	<1	—
Chloroethane	ug/l	<2	—	<2	<2.	<2	—	<2	<2	<2	<2	—	<40	<2	<2	—
Chloroform	ug/l	<1	—	<1	<1.	0.1J	—	<1	<1	<1	<1	—	<20	<1	<1	—
Chloromethane	ug/l	<2	—	<2	<2.	2	—	<2	<2	<2	<2	—	<40	<2	<2	—
2-Chlorotoluene	ug/l	<1	—	<1	<1.	<1	—	<1	<1	<1	<1	—	<20	<1	<1	—
4-Chlorotoluene	ug/l	<1	—	<1	<1.	<1	—	<1	<1	<1	<1	—	<20	<1	<1	—
Dibromochloromethane	ug/l	<1	—	<1	<1.	<1	—	<1	<1	<1	<1	—	<20	<1	<1	—
1,2-Dichlorobenzene	ug/l	<1	—	1	2	0.4J	—	<1	<1	<1	<1	—	<10	<1	<1	—
1,3-Dichlorobenzene	ug/l	<1	—	<1	<1.	<1	—	<1	<1	<1	<1	—	<10	<1	<1	—
1,4-Dichlorobenzene	ug/l	<1	—	2	<1.	0.9J	—	<1	<1	<1	<1	—	<10	<1	<1	—
1,1-Dichloroethane	ug/l	1	—	4	4	3	—	2	1	1	0.8J	—	<20	0.9J	0.7J	—
1,1-Dichloroethene	ug/l	2	—	30	27	21	—	57	31	30	14	—	14J	7	2	—
1,2-Dichloroethene	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
cis-1,2-Dichloroethene	ug/l	55	—	43	39	100	—	21	13	12	24	—	42	30	81	—
trans-1,2-Dichloroethene	ug/l	0.6J	—	0.8J	0.6J	2	—	<1	<1	<1	0.4J	—	<20	0.8J	0.7J	—
Diethyl ether	ug/l	<1	—	<2	<2.	<1	—	<2	<2	<2	<1	—	<40	<2	<1	—
Ethylbenzene	ug/l	<1	—	<1	<1.	<1	—	<1	<1	<1	<1	—	<20	<1	<1	—
Hexachlorobutadiene	ug/l	<1	—	<1	<1.	<1J	—	<1	<1	<1	<1	—	<10	<1	<1	—
Isopropylbenzene	ug/l	<1	—	<1	<1.	<1	—	<1	<1	<1	<1	—	<20	<1	<1	—
p-Isopropyltoluene	ug/l	<1	—	<1	<1.	<1	—	<1	<1	<1	<1	—	<20	<1	<1	—
Methylene chloride	ug/l	<1	—	<1	<1.J	<1	—	<1	<1J	<1J	<1	—	<40	<1J	<1	—
MTBE	ug/l	<2	—	<1	<1.	<2	—	<1	<1	<1	<2	—	<20	<1	<2	—
Naphthalene	ug/l	<1	—	<1	<1.	<1J	—	<1	<1	<1	<1	—	<10	<1	<1	—
n-Propylbenzene	ug/l	<1	—	<1	<1.	<1	—	<1	<1	<1	<1	—	<20	<1	<1	—
1,1,1,2-Tetrachloroethane	ug/l	<1	—	2	2	1	—	3	2	2	0.7J	—	<20	0.8J	<1	—
Tetrachloroethene	ug/l	2200	—	14000J	17000	14000	—	16000J	14000	13000	4000	—	4500	3400	1200	—
Tetrahydrofuran	ug/l	<10	—	<10J	<10.	<10	—	<10	<10	<10	<10	—	<200J	<10	<10	—
Toluene	ug/l	<1	—	<1	<1.	0.2J	—	0.6J	<1	<1	<1	—	<20	0.6J	<1	—
1,2,3-Trichlorobenzene	ug/l	<1	—	16	18	9J	—	<1	0.7J	0.9J	0.5J	—	<20	<1	<1	—
1,2,4-Trichlorobenzene	ug/l	<1	—	30	34	1	—	0.6J	<1	0.8J	<1	—	<10	<1	<1	—
1,3,5-Trichlorobenzene	ug/l	<1	—	<1	<1.	<1	—	<1	<1	<1	<1	—	<20	<1	<1	—
1,1,1-Trichloroethane	ug/l	15	—	600	460	400	—	950	630	570	170	—	280	170	36	—
1,1,2-Trichloroethane	ug/l	<1	—	<1	<1.	<1	—	1	<1	<1	<1	—	<20	<1	<1	—
Trichloroethene	ug/l	160	—	520	380	740	—	140	87	88	94	—	300	190	160	—
Trichlorofluoromethane	ug/l	<2	—	<2	<2.J	<2	—	<2	<2J	<2J	<2	—	<40J	<2J	<2	—
1,2,4-Trimethylbenzene	ug/l	<1	—	<1	<1.	<1	—	<1	<1	<1	<1	—	<20	<1	<1	—
1,3,5-Trimethylbenzene	ug/l	<1	—	<1	<1.	<1	—	<1	<1	<1	<1	—	<20	<1	<1	—
Vinyl chloride	ug/l	<2	—	<2	<2.	<2	—	<2	<2	<2	<2	—	<40	<2	<2	—
o-Xylene	ug/l	<1	—	<1	<1.	<1	—	<1	<1	<1	<1	—	<20	<1	<1	—
m+p-Xylenes	ug/l	<2	—	<1	<1.	<2	—	<1	<1	<1	<2	—	<20	<1	<2	—

Table 7
Detected Parameters
Groundwater Samples
Hows Corner Superfund Site
Plymouth, Maine

Parameter	Units	MW-102S 9/9/2004 MW-102S Primary	MW-103D 1/5/2000 MW-103D Primary	MW-103D 1/5/2000 MW-103D Primary	MW-103D 5/24/2000 MW-103D Primary	MW-103D 9/9/2004 MW-103D Primary	MW-103S 1/5/2000 MW-103S Primary	MW-103S 1/5/2000 MW-103S Primary	MW-103S 5/24/2000 MW-103S Primary	MW-103S 5/24/2000 MW-103S DUP Duplicate	MW-103S 9/9/2004 MW-103S Primary	MW-104D 1/4/2000 MW-104D Primary	MW-104D 1/4/2000 MW-104D Primary	MW-104D 5/24/2000 MW-104D Primary	MW-104D 9/9/2004 MW-104D Primary	MW-104I 1/4/2000 MW-104I Primary
Dissolved Volatile Organic Compound																
Tetrachloroethylene	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Semi-Volatile Organic Compounds																
bis(2-Ethylhexyl)phthalate	ug/l	—	—	<10	<10	—	—	<10	<10J	<10	—	—	<10	<10	—	—
Phenol	ug/l	—	—	<10	<10	—	—	<10	<10J	<10	—	—	<10	<10	—	—
PCBs																
Aroclor 1260	ug/l	—	—	<0.1	—	—	—	<0.1	—	—	—	—	<0.1	—	—	—
Dichlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Heptachlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hexachlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Nonachlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Octachlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Pentachlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tetrachlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Trichlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Pesticides																
Dieldrin	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total Inorganics																
Aluminum	ug/l	—	—	<100	<100	—	—	<100	<100	<100	—	—	<100	<100	—	—
Antimony	ug/l	—	—	<8.0	<8.0	—	—	<8.0	<8.0	<8.0	—	—	<8.0	<8.0	—	—
Arsenic	ug/l	—	—	<8.0	<8.0	—	—	<8.0	<8.0	<8.0	—	—	<8.0	<8.0	—	—
Barium	ug/l	—	—	<5.0	<5.0	—	—	17.5	<5.0	<5.0	—	—	23.8	22.7J	—	—
Beryllium	ug/l	—	—	<5.0	<5.0	—	—	<5.0	<5.0	<5.0	—	—	<5.0	<5.0	—	—
Cadmium	ug/l	—	—	<10	<10	—	—	<10	<10	<10	—	—	<10	<10	—	—
Calcium	ug/l	—	—	31900	33400	—	—	29300	28900	28100	—	—	26400	29200	—	—
Chromium	ug/l	—	—	<15	<15	—	—	0.68	<15	4.1B	—	—	<15	<15	—	—
Cobalt	ug/l	—	—	<30	<30	—	—	<30	<30	<30	—	—	<30	<30	—	—
Copper	ug/l	—	—	<25	<25	—	—	<25	<25	<25	—	—	<25	<25	—	—
Iron	ug/l	—	—	<50	<50	—	—	<50	<50	<50	—	—	<50	<50	—	—
Lead	ug/l	—	—	<5.0	<5.0	—	—	<5.0	<5.0	<5.0	—	—	<5.0	<5.0	—	—
Magnesium	ug/l	—	—	7140	7940	—	—	6200	6780	6530	—	—	3860	4020	—	—
Manganese	ug/l	—	—	7	5.7	—	—	11.1	2.9B	2.9B	—	—	130	126	—	—
Mercury	ug/l	—	—	<0.20	0.04B	—	—	0.03	<0.20	0.02B	—	—	<0.20	<0.20	—	—
Nickel	ug/l	—	—	<40	<40	—	—	<40	<40	<40	—	—	<40	<40	—	—
Potassium	ug/l	—	—	<1000	<1000	—	—	<1000	<1000	<1000	—	—	988	<1000	—	—
Selenium	ug/l	—	—	<10	<10	—	—	<10	<10	<10	—	—	<10	<10	—	—
Silver	ug/l	—	—	<15	<15	—	—	<15	<15	<15	—	—	<15	<15	—	—
Sodium	ug/l	—	—	3000	3000	—	—	4230	3350	3130	—	—	19900	24800	—	—
Thallium	ug/l	—	—	<15	<15	—	—	<15	<15	<15	—	—	<15	<15	—	—
Vanadium	ug/l	—	—	<25	<25	—	—	<25	<25	<25	—	—	<25	<25	—	—
Zinc	ug/l	—	—	<25	<25	—	—	<25	<25	<25	—	—	19.7	18.0B	—	—
Dissolved Inorganics																
Aluminum	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arsenic	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Calcium	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Chromium	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Iron	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Lead	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Magnesium	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manganese	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mercury	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sodium	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Table 7
Detected Parameters
Groundwater Samples
Hows Corner Superfund Site
Plymouth, Maine

Parameter	Units	MW-102S 9/9/2004 MW-102S Primary	MW-103D 1/5/2000 MW-103D Primary	MW-103D 1/5/2000 MW-103D Primary	MW-103D 5/24/2000 MW-103D Primary	MW-103D 9/9/2004 MW-103D Primary	MW-103S 1/5/2000 MW-103S Primary	MW-103S 1/5/2000 MW-103S Primary	MW-103S 5/24/2000 MW-103S Primary	MW-103S 5/24/2000 MW-103S DUP Duplicate	MW-103S 9/9/2004 MW-103S Primary	MW-104D 1/4/2000 MW-104D Primary	MW-104D 1/4/2000 MW-104D Primary	MW-104D 5/24/2000 MW-104D Primary	MW-104D 9/9/2004 MW-104D Primary	MW-104I 1/4/2000 MW-104I Primary
Petroleum Hydrocarbons																
TPH	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Water Quality Parameters																
Alkalinity (as CaCO3)	mg/l	—	—	120	—	—	—	110	—	—	—	—	—	—	—	—
Bicarbonate (as CaCO3)	mg/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Chloride	mg/l	—	—	2.5	—	—	—	3	—	—	—	—	—	—	—	—
Dissolved oxygen	mg/l	—	-0.06	—	—	—	0.06	—	—	—	—	0.08	—	—	—	0
eH	mv	—	117.2	—	—	—	124.8	—	—	—	—	38.9	—	—	—	40.9
Ferric iron	mg/l	—	—	<0.1	—	—	—	<0.1	—	—	—	—	—	—	—	—
Ferrous iron	mg/l	—	—	<0.10	—	—	—	<0.10	—	—	—	—	—	—	—	—
Methane	mg/l	—	—	<0.010	—	—	—	<0.010	—	—	—	—	—	—	—	—
Nitrate (as N)	mg/l	—	—	<0.050	—	—	—	0.12	—	—	—	—	—	—	—	—
pH		—	7.17	—	—	—	7.31	—	—	—	—	7.11	—	—	—	6.56
Residue, filterable	mg/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Specific conductivity	umhos/cm	—	199	—	—	—	188	—	—	—	—	266	—	—	—	142
Sulfate	mg/l	—	—	6.5	—	—	—	7.9	—	—	—	—	—	—	—	—
Sulfide	mg/l	—	—	<4.0	—	—	—	<4.0	—	—	—	—	—	—	—	—
Temperature	cent	—	6.6	—	—	—	7.69	—	—	—	—	8.2	—	—	—	8.43
Total organic carbon	mg/l	—	—	2.4	—	—	—	1.2	—	—	—	—	—	—	—	—
Turbidity	ntu	—	1.68	—	—	—	1.58	—	—	—	—	3.86	—	—	—	12.9

< = not detected at reporting limit
--- = not analyzed
B = estimated (inorganics)
E = estimated
J = estimated
R = rejected
U = revised to non-detected

Table 7
Detected Parameters
Groundwater Samples
Hows Corner Superfund Site
Plymouth, Maine

Parameter	Units	MW-104I 1/4/2000 MW-104I Primary	MW-104I 5/24/2000 MW-104I Primary	MW-104I 9/9/2004 MW-104I Primary	MW-104S 1/4/2000 MW-104S Primary	MW-104S 1/4/2000 MW-104S Primary	MW-104S 5/24/2000 MW-104S Primary	MW-105D 12/17/1999 MW-105D Primary	MW-105D 12/17/1999 MW-105D Primary	MW-105D 5/22/2000 MW-105D Primary	MW-106D 12/17/1999 MW-106D Primary	MW-106D 12/17/1999 MW-106D Primary	MW-106D 5/23/2000 MW-106D Primary	MW-106D 6/10/2001 MW-106D Primary	MW-106D 1/16/2002 MW-106D (77.5') Primary
Total Volatile Organic Compounds															
Acetone	ug/l	<5J	<5.	2J	—	<5J	<5	—	<5	<5J	—	<5	<5	<5	<7J
Benzene	ug/l	<1	<1.	<1	—	<1	<1	—	<1	<1	—	<1	<1	<1	<1
2-Butanone	ug/l	<5	<5.	<5	—	<5	<5	—	<5	<5J	—	<5	<5	<5	<5J
n-Butylbenzene	ug/l	<1	<1.	<1	—	<1	<1	—	<1	<1	—	<1	<1	<1	<1
sec-Butylbenzene	ug/l	<1	<1.	<1	—	<1	<1	—	<1	<1	—	<1	<1	<1	<1
Carbon disulfide	ug/l	<2.0	<2.	<1	—	<2.0	<2.0	—	<2	<2.0	—	<2.0	<2.0	<2.0	<2.0
Carbon tetrachloride	ug/l	<1	<1.	<1	—	<1	<1	—	<1	<1	—	<1	<1	<1	<1
Chlorobenzene	ug/l	1	1	0.3J	—	<1	<1	—	<1	<1	—	<1	<1	<1	<1
Chloroethane	ug/l	<2J	<2.	<2	—	<2J	<2	—	<2	<2	—	<2	<2	<2	<2
Chloroform	ug/l	<1	<1.	<1	—	<1	<1	—	<1	<1	—	<1	<1	<1	<1
Chloromethane	ug/l	<2	<2.	<2	—	<2	<2	—	<2	<2	—	<2	<2	<2	<2
2-Chlorotoluene	ug/l	<1	<1.	<1	—	<1	<1	—	<1	<1	—	<1	<1	<1	<1
4-Chlorotoluene	ug/l	<1	<1.	<1	—	<1	<1	—	<1	<1	—	<1	<1	<1	<1
Dibromochloromethane	ug/l	<1	<1.	<1	—	<1	<1	—	<1	<1	—	<1	<1	<1	<1
1,2-Dichlorobenzene	ug/l	3	4	1	—	1	1	—	<1	<1	—	<1	<1	<1	<1
1,3-Dichlorobenzene	ug/l	0.5J	<1.	<1	—	<1	<1	—	<1	<1	—	<1	<1	<1	<1
1,4-Dichlorobenzene	ug/l	0.9J	<1.	0.5J	—	0.6J	0.7J	—	<1	<1	—	<1	<1	<1	<1
1,1-Dichloroethane	ug/l	0.9J	1	2	—	1	1	—	0.7J	0.6J	—	<1	<1	<1	0.8J
1,1-Dichloroethene	ug/l	16	18	2	—	2	4	—	4	2	—	<1	0.6J	3	4
1,2-Dichloroethene	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
cis-1,2-Dichloroethene	ug/l	20	32	94	—	120	33	—	22	22	—	<1	1	6	9
trans-1,2-Dichloroethene	ug/l	0.7J	0.5J	2	—	7	2	—	<1	<1	—	<1	<1	<1	<1
Diethyl ether	ug/l	<2	<2.	<1	—	<2	<2	—	<2	<2	—	<2	<2	<2	—
Ethylbenzene	ug/l	0.7J	0.8J	<1	—	<1	<1	—	<1	<1	—	<1	<1	<1	<1
Hexachlorobutadiene	ug/l	<1	<1.	<1	—	<1	<1	—	<1	<1	—	<1	<1	<1	<1
Isopropylbenzene	ug/l	<1	<1.	<1	—	<1	<1	—	<1	<1	—	<1	<1	<1	<1
p-Isopropyltoluene	ug/l	<1	<1.	<1	—	<1	<1	—	<1	<1	—	<1	<1	<1	<1
Methylene chloride	ug/l	<2	<1.J	<1	—	<1J	<1J	—	<1	<1J	—	<1	<2J	<1J	<1J
MTBE	ug/l	<1	<1.	<2	—	<1	<1	—	<1	<1	—	<1	<1	<1	<1
Naphthalene	ug/l	0.5J	1	1	—	0.8J	1	—	<1	<1	—	<1	<1	<1J	<1
n-Propylbenzene	ug/l	<1	<1.	<1	—	<1	<1	—	<1	<1	—	<1	<1	<1	<1
1,1,1,2-Tetrachloroethane	ug/l	<1	4	0.2J	—	<1	0.9J	—	<1	<1	—	<1	<1	<1	<1
Tetrachloroethene	ug/l	32000	32000	11000	—	15000	13000	—	1500	420J	—	0.7J	250	2500	2400
Tetrahydrofuran	ug/l	<10J	<10.	<10	—	<10J	<10	—	<1	<10	—	<10	<10	<10	<10
Toluene	ug/l	0.7J	0.9J	<1	—	<1	<1	—	<1	<1	—	<1	<1	<1	<1
1,2,3-Trichlorobenzene	ug/l	5	5	4	—	3	3	—	<1	<1	—	<1	<1	<1J	3J
1,2,4-Trichlorobenzene	ug/l	17	16	9	—	7	5	—	<1	<1	—	<1	<1	<1J	0.9J
1,3,5-Trichlorobenzene	ug/l	<1	<1.	<1	—	<1	<1	—	<1	<1	—	<1	<1	<1	<1
1,1,1-Trichloroethane	ug/l	500	1000	61	—	66	140	—	36	23	—	<1	9	49J	73
1,1,2-Trichloroethane	ug/l	<1	<1.	<1	—	<1	<1	—	<1	<1	—	<1	<1	<1	<1
Trichloroethene	ug/l	500	690	910	—	1200	850	—	120	97	—	<1	10	57	80
Trichlorofluoromethane	ug/l	<2J	<2.J	<2	—	<2J	<2J	—	<20.	<2J	—	<2	<2J	<2	<2
1,2,4-Trimethylbenzene	ug/l	0.8J	1	<1	—	<1	<1	—	<1	<1	—	<1	<1	<1	<1
1,3,5-Trimethylbenzene	ug/l	<1	<1.	<1	—	<1	<1	—	<1	<1	—	<1	<1	<1	<1
Vinyl chloride	ug/l	<2	<2.	<2	—	<2	<2	—	<2	<2	—	<2	<2	<2	<2
o-Xylene	ug/l	0.9J	2	<1	—	<1	<1	—	<1	<1	—	<1	<1	<1	<1
m+p-Xylenes	ug/l	0.6J	0.6J	<2	—	<1	<1	—	<1	<1	—	<1	<1	<1	<1

Table 7
Detected Parameters
Groundwater Samples
Hows Corner Superfund Site
Plymouth, Maine

Parameter	Units	MW-104I 1/4/2000 MW-104I Primary	MW-104I 5/24/2000 MW-104I Primary	MW-104I 9/9/2004 MW-104I Primary	MW-104S 1/4/2000 MW-104S Primary	MW-104S 1/4/2000 MW-104S Primary	MW-104S 5/24/2000 MW-104S Primary	MW-105D 12/17/1999 MW-105D Primary	MW-105D 12/17/1999 MW-105D Primary	MW-105D 5/22/2000 MW-105D Primary	MW-106D 12/17/1999 MW-106D Primary	MW-106D 12/17/1999 MW-106D Primary	MW-106D 5/23/2000 MW-106D Primary	MW-106D 6/10/2001 MW-106D Primary	MW-106D 1/16/2002 MW-106D (77.5') Primary
Dissolved Volatile Organic Compound															
Tetrachloroethylene	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Semi-Volatile Organic Compounds															
bis(2-Ethylhexyl)phthalate	ug/l	<10	<10	—	—	<10	<10	—	<10	<10	—	<10	<10	—	—
Phenol	ug/l	<10	<10	—	—	<10	<10	—	<10	<10	—	<10	<10	—	—
PCBs															
Aroclor 1260	ug/l	0.25	—	—	—	<0.1	—	—	<0.10	—	—	<0.10	—	—	—
Dichlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	<0.50	—	—	<0.50	—	—
Heptachlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	<0.50	—	—	<0.50	—	—
Hexachlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	<0.50	—	—	<0.50	—	—
Nonachlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	<0.50	—	—	<0.50	—	—
Octachlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	<0.50	—	—	<0.50	—	—
Pentachlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	<0.50	—	—	<0.50	—	—
Tetrachlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	<0.50	—	—	<0.50	—	—
Trichlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	<0.50	—	—	<0.50	—	—
Pesticides															
Dieldrin	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total Inorganics															
Aluminum	ug/l	<100	582	—	—	<100	<100	—	<100	<100	—	<100	<100	—	—
Antimony	ug/l	<8.0	<8.0	—	—	<8.0	<8.0	—	2.1J	<8.0	—	<8.0	<8.0	—	—
Arsenic	ug/l	<8.0	<8.0	—	—	<8.0	<8.0	—	<8.0	<8.0	—	<8.0	<8.0	—	—
Barium	ug/l	<5.0	<5.0	—	—	<5.0	<5.0	—	23.7J	17.1	—	23.8J	<5.0	—	—
Beryllium	ug/l	<5.0	<5.0	—	—	<5.0	<5.0	—	<5.0	<5.0	—	<5.0	<5.0	—	—
Cadmium	ug/l	<10	<10	—	—	<10	<10	—	<10	<10	—	<10	<10	—	—
Calcium	ug/l	21800	27000	—	—	10100	11500	—	25600	30100	—	36500	18600	—	—
Chromium	ug/l	<15	<15	—	—	1.5	<15	—	<15	<15	—	<15	<15	—	—
Cobalt	ug/l	<30	<30	—	—	2.1	3.1B	—	<30	<30	—	<30	<30	—	—
Copper	ug/l	1.1	<25	—	—	1.2	<25	—	<25	<25	—	<25	<25	—	—
Iron	ug/l	164	532	—	—	269	313	—	<50	<50	—	280	<50	—	—
Lead	ug/l	<5.0	<5.0	—	—	<5.0	<5.0	—	<5.0	<5.0	—	1.0J	<5.0	—	—
Magnesium	ug/l	2640	3370	—	—	1250	1510	—	6550	8110	—	7930	4140	—	—
Manganese	ug/l	310	402	—	—	711	880	—	50.2	18.4	—	394	4.3B	—	—
Mercury	ug/l	0.03	<0.20	—	—	0.03	0.03B	—	<0.20	<0.20	—	0.05J	<0.20	—	—
Nickel	ug/l	<40	<40	—	—	<40	<40	—	<40	<40	—	<40	<40	—	—
Potassium	ug/l	752	<1000	—	—	<1000	<1000	—	<1000	932B	—	933J	<1000	—	—
Selenium	ug/l	<10	<10	—	—	<10	<10	—	<10	<10	—	<10	<10	—	—
Silver	ug/l	<15	<15	—	—	<15	<15	—	<15	<15	—	<15	<15	—	—
Sodium	ug/l	5960	6920	—	—	4740	2700	—	8880	4920	—	7310	2070	—	—
Thallium	ug/l	<15	<15	—	—	<15	<15	—	<15	<15	—	<15	<15	—	—
Vanadium	ug/l	<25	<25	—	—	<25	<25	—	<25	<25	—	<25	<25	—	—
Zinc	ug/l	2.1	2.4B	—	—	5	4.6B	—	31.6	26.5	—	<25	8.8B	—	—
Dissolved Inorganics															
Aluminum	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arsenic	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Calcium	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Chromium	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Iron	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Lead	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Magnesium	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manganese	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mercury	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sodium	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Table 7
Detected Parameters
Groundwater Samples
Hows Corner Superfund Site
Plymouth, Maine

Parameter	Units	MW-104I 1/4/2000 MW-104I Primary	MW-104I 5/24/2000 MW-104I Primary	MW-104I 9/9/2004 MW-104I Primary	MW-104S 1/4/2000 MW-104S Primary	MW-104S 1/4/2000 MW-104S Primary	MW-104S 5/24/2000 MW-104S Primary	MW-105D 12/17/1999 MW-105D Primary	MW-105D 12/17/1999 MW-105D Primary	MW-105D 5/22/2000 MW-105D Primary	MW-106D 12/17/1999 MW-106D Primary	MW-106D 12/17/1999 MW-106D Primary	MW-106D 5/23/2000 MW-106D Primary	MW-106D 6/10/2001 MW-106D Primary	MW-106D 1/16/2002 MW-106D (77.5') Primary
Petroleum Hydrocarbons															
TPH	ug/l	---	—	—	—	—	---	—	—	—	—	—	---	—	—
Water Quality Parameters															
Alkalinity (as CaCO3)	mg/l	81	—	—	—	—	—	—	110	—	—	150	---	---	---
Bicarbonate (as CaCO3)	mg/l	—	—	---	---	---	—	---	—	—	---	—	---	—	—
Chloride	mg/l	3.1	—	—	---	---	—	—	2.2	—	—	<2.0	—	—	—
Dissolved oxygen	mg/l	—	—	—	0.87	—	—	1.39	---	—	1.01	—	—	—	---
eH	mv	---	---	—	-198.1	—	---	192.9	—	---	242	---	—	—	---
Ferric iron	mg/l	<0.1	---	---	---	---	—	---	<0.10	---	---	0.37	—	—	—
Ferrous iron	mg/l	0.16	—	—	—	—	—	—	<0.10	—	—	0.37	—	—	---
Methane	mg/l	<0.010	---	—	—	—	---	—	<0.010	---	—	<0.010	—	---	---
Nitrate (as N)	mg/l	0.12	---	—	—	—	---	—	0.079	---	---	0.095	—	---	—
pH		—	—	—	6.14	—	—	7.39	---	—	6.53	—	—	—	---
Residue, filterable	mg/l	—	---	—	—	—	---	—	—	—	—	---	---	---	—
Specific conductivity	umhos/cm	—	---	—	85	---	—	229	—	---	143	---	—	—	—
Sulfate	mg/l	10	—	—	—	—	—	—	6.8	---	---	10	—	—	—
Sulfide	mg/l	<4.0	---	---	—	—	---	—	<2.	—	—	<2.	---	—	---
Temperature	cent	—	—	---	8.4	—	---	8.12	---	---	8	---	---	—	---
Total organic carbon	mg/l	4.8	—	—	—	—	—	—	1.9	—	---	2.2	—	—	—
Turbidity	ntu	—	---	—	25.1	—	—	1.93	—	—	2.73	—	—	—	—

< = not detected at reporting limit
— = not analyzed
B = estimated (inorganics)
E = estimated
J = estimated
R = rejected
U = revised to non-detected

Table 7
Detected Parameters
Groundwater Samples
Hows Corner Superfund Site
Plymouth, Maine

Parameter	Units	MW-106D 1/16/2002 MW-106D (80') Primary	MW-106D 1/16/2002 MW-106D (82.5') Primary	MW-106D 1/16/2002 MW-106D Primary	MW-106D 4/15/2003 MW-106D Primary	MW-106D 9/8/2004 MW-106D Primary	MW-106S 12/17/1999 MW-106S Primary	MW-106S 12/17/1999 MW-106S Primary	MW-106S 5/23/2000 MW-106S Primary	MW-106S 6/10/2001 MW-106S Primary	MW-106S 1/16/2002 MW-106S (30') Primary	MW-106S 1/16/2002 MW-106S (34.5') Primary	MW-106S 1/16/2002 MW-106S (37') Primary	MW-106S 1/16/2002 MW-106S (40') Primary
Total Volatile Organic Compounds														
Acetone	ug/l	<5J	<5J	<5J	<5	3J	---	<5	<5J	<5J	<6J	<5J	<5J	<5J
Benzene	ug/l	<1	<1	<1	<1	<1	—	<1	<1	<1	<1	<1	<1	<1
2-Butanone	ug/l	<5J	<5J	<5J	<5	<5	—	<5	<5	<5J	<5J	<5J	<5J	<5J
n-Butylbenzene	ug/l	<1	<1	<1	<1	<1	—	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene	ug/l	<1	<1	<1	<1	<1	—	<1	<1	<1	<1	<1	<1	<1
Carbon disulfide	ug/l	<2.0	<2.0	<2.0	<1	<1	—	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Carbon tetrachloride	ug/l	<1	<1	<1	<1	<1	—	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	ug/l	<1	<1	<1	<1	<1	—	<1	<1	<1	<1	<1	<1	<1
Chloroethane	ug/l	<2	<2	<2	<2	<2	—	<2	<2	<2	<2	<2	<2	<2
Chloroform	ug/l	<1	<1	<1	<1	<1	—	<1	<1	<1	<1	<1	<1	<1
Chloromethane	ug/l	<2	<2	<2	<2	<2	—	<2	<2	<2	<2	<2	<2	<2
2-Chlorotoluene	ug/l	<1	<1	<1	<1	<1	—	<1	<1	<1	<1	<1	<1	<1
4-Chlorotoluene	ug/l	<1	<1	<1	<1	<1	---	<1	<1	<1	<1	<1	<1	<1
Dibromochloromethane	ug/l	<1	<1	<1	<1	<1	—	<1	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	ug/l	<1	<1	<1	<1	<1	—	<1	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	ug/l	<1	<1	<1	<1	<1	---	<1	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	ug/l	<1	<1	<1	<1	<1	---	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	ug/l	0.6J	<1	<1	<1	<1	—	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	ug/l	3	2	2	<1	0.5J	—	<1J	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene	ug/l	—	—	—	---	—	—	—	—	---	---	—	—	—
cis-1,2-Dichloroethene	ug/l	7	6	6	6	7	—	0.8J	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	ug/l	<1	<1	<1	<1	<1	—	<1	<1	<1	<1	<1	<1	<1
Diethyl ether	ug/l	<2	<2	<2	<1	<1	—	<2	<2	<2	<2	<2	<2	<2
Ethylbenzene	ug/l	<1	<1	<1	1J	<1	—	<1	<1	<1	<1	<1	<1	<1
Hexachlorobutadiene	ug/l	<1	<1	<1	<1	<1	—	<1	<1	<1	<1	<1	<1	<1
Isopropylbenzene	ug/l	<1	<1	<1	<1	<1	—	<1	<1	<1	<1	<1	<1	<1
p-Isopropyltoluene	ug/l	<1	<1	<1	<1	<1	—	<1	<1	<1	<1	<1	<1	<1
Methylene chloride	ug/l	<1J	<1J	<1J	<1	<1	---	<1	<1J	<1J	<1J	<1J	<1J	<1J
MTBE	ug/l	<1	<1	<1	<1	<2	---	<1	<1	<1	<1	<1	<1	<1
Naphthalene	ug/l	<1	<1	<1	2J	<1	—	<1	<1J	<1J	<1	<1	<1	<1
n-Propylbenzene	ug/l	<1	<1	<1	<1	<1	—	<1	<1	<1	<1	<1	<1	<1
1,1,1,2-Tetrachloroethane	ug/l	<1	<1	<1	<1	<1	---	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	ug/l	1800	1400	1200	380	280	---	150	<1	<1	<1	<1	<1	<1
Tetrahydrofuran	ug/l	<10	<10	<10	<10	<10	—	<10	<10	<10	<10	<10	<10	<10
Toluene	ug/l	<1	<1	<1	<5U	<1	---	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichlorobenzene	ug/l	3J	1J	2J	<1J	<1	---	<1	<1	<1J	<1J	<1J	<1J	<1J
1,2,4-Trichlorobenzene	ug/l	0.9J	<1J	<1J	<1	<1	—	<1	<1	<1	<1J	<1J	<1J	<1J
1,3,5-Trichlorobenzene	ug/l	<1	<1	<1	<1	<1	---	<1	<1	<1	<1	<1	<1	<1
1,1,1-Trichloroethane	ug/l	53	44	44	10	8	---	6	<1	<1J	<1	<1	<1	<1
1,1,2-Trichloroethane	ug/l	<1	<1	<1	<1	<1	—	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	ug/l	58	51	50	25	21	---	5J	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	ug/l	<2	<2	<2	<2	<2	---	<2	<2	<2	<2	<2	<2	<2
1,2,4-Trimethylbenzene	ug/l	<1	<1	<1	<1	<1	—	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene	ug/l	<1	<1	<1	<1	<1	---	<1	<1	<1	<1	<1	<1	<1
Vinyl chloride	ug/l	<2	<2	<2	<2	<2	—	<2	<2	<2	<2	<2	<2	<2
o-Xylene	ug/l	<1	<1	<1	<1	<1	—	<1	<1	<1	<1	<1	<1	<1
m+p-Xylenes	ug/l	<1	<1	<1	<1	<2	---	<1	<1	<1	<1	<1	<1	<1

Table 7
Detected Parameters
Groundwater Samples
Hows Corner Superfund Site
Plymouth, Maine

Parameter	Units	MW-106D 1/16/2002 MW-106D (80') Primary	MW-106D 1/16/2002 MW-106D (82.5') Primary	MW-106D 1/16/2002 MW-106D Primary	MW-106D 4/15/2003 MW-106D Primary	MW-106D 9/8/2004 MW-106D Primary	MW-106S 12/17/1999 MW-106S Primary	MW-106S 12/17/1999 MW-106S Primary	MW-106S 5/23/2000 MW-106S Primary	MW-106S 6/10/2001 MW-106S Primary	MW-106S 1/16/2002 MW-106S (30') Primary	MW-106S 1/16/2002 MW-106S (34.5') Primary	MW-106S 1/16/2002 MW-106S (37') Primary	MW-106S 1/16/2002 MW-106S (40') Primary
Dissolved Volatile Organic Compound														
Tetrachloroethylene	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---
Semi-Volatile Organic Compounds														
bis(2-Ethylhexyl)phthalate	ug/l	---	---	---	---	---	---	<10.J	<10	---	---	---	---	---
Phenol	ug/l	---	---	---	---	---	---	<10.J	<10	---	---	---	---	---
PCBs														
Arodor 1260	ug/l	---	---	---	---	---	---	<0.10	---	---	---	---	---	---
Dichlorobiphenyl	ng/l	---	---	---	---	---	---	---	---	---	---	---	---	---
Heptachlorobiphenyl	ng/l	---	---	---	---	---	---	---	---	---	---	---	---	---
Hexachlorobiphenyl	ng/l	---	---	---	---	---	---	---	---	---	---	---	---	---
Nonachlorobiphenyl	ng/l	---	---	---	---	---	---	---	---	---	---	---	---	---
Octachlorobiphenyl	ng/l	---	---	---	---	---	---	---	---	---	---	---	---	---
Pentachlorobiphenyl	ng/l	---	---	---	---	---	---	---	---	---	---	---	---	---
Tetrachlorobiphenyl	ng/l	---	---	---	---	---	---	---	---	---	---	---	---	---
Trichlorobiphenyl	ng/l	---	---	---	---	---	---	---	---	---	---	---	---	---
Pesticides														
Dieldrin	ug/l	---	---	---	<0.1	---	---	---	---	---	---	---	---	---
Total Inorganics														
Aluminum	ug/l	---	---	---	---	---	---	<100	291	---	---	---	---	---
Antimony	ug/l	---	---	---	---	---	---	<8.0	<8.0	---	---	---	---	---
Arsenic	ug/l	---	---	---	<1.80J	---	---	<8.0	2.2B	---	---	---	---	---
Barium	ug/l	---	---	---	---	---	---	25.8J	<5.0	---	---	---	---	---
Beryllium	ug/l	---	---	---	---	---	---	<5.0	<5.0	---	---	---	---	---
Cadmium	ug/l	---	---	---	---	---	---	<10	<10	---	---	---	---	---
Calcium	ug/l	---	---	---	---	---	---	17900	33900	---	---	---	---	---
Chromium	ug/l	---	---	---	---	---	---	<15	<15	---	---	---	---	---
Cobalt	ug/l	---	---	---	---	---	---	<30	3.1B	---	---	---	---	---
Copper	ug/l	---	---	---	---	---	---	<25	<25	---	---	---	---	---
Iron	ug/l	---	---	---	---	---	---	<50	164	---	---	---	---	---
Lead	ug/l	---	---	---	---	---	---	0.72J	<5.0	---	---	---	---	---
Magnesium	ug/l	---	---	---	---	---	---	3810	7750	---	---	---	---	---
Manganese	ug/l	---	---	---	<1.4U	---	---	33.3	811	---	---	---	---	---
Mercury	ug/l	---	---	---	---	---	---	0.03J	<0.20	---	---	---	---	---
Nickel	ug/l	---	---	---	---	---	---	<40	<40	---	---	---	---	---
Potassium	ug/l	---	---	---	---	---	---	<1000	738B	---	---	---	---	---
Selenium	ug/l	---	---	---	---	---	---	<10	<10	---	---	---	---	---
Silver	ug/l	---	---	---	---	---	---	<15	<15	---	---	---	---	---
Sodium	ug/l	---	---	---	---	---	---	2640	3630	---	---	---	---	---
Thallium	ug/l	---	---	---	---	---	---	<15	<15	---	---	---	---	---
Vanadium	ug/l	---	---	---	---	---	---	<25	<25	---	---	---	---	---
Zinc	ug/l	---	---	---	---	---	---	12.0J	2.0B	---	---	---	---	---
Dissolved Inorganics														
Aluminum	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---
Arsenic	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---
Calcium	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---
Chromium	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---
Lead	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---
Magnesium	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---
Manganese	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---
Mercury	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---
Sodium	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---

Table 7
Detected Parameters
Groundwater Samples
Hows Corner Superfund Site
Plymouth, Maine

Parameter	Units	MW-106D 1/16/2002 MW-106D (80') Primary	MW-106D 1/16/2002 MW-106D (82.5') Primary	MW-106D 1/16/2002 MW-106D Primary	MW-106D 4/15/2003 MW-106D Primary	MW-106D 9/8/2004 MW-106D Primary	MW-106S 12/17/1999 MW-106S Primary	MW-106S 12/17/1999 MW-106S Primary	MW-106S 5/23/2000 MW-106S Primary	MW-106S 6/10/2001 MW-106S Primary	MW-106S 1/16/2002 MW-106S (30') Primary	MW-106S 1/16/2002 MW-106S (34.5') Primary	MW-106S 1/16/2002 MW-106S (37') Primary	MW-106S 1/16/2002 MW-106S (40') Primary
Petroleum Hydrocarbons														
TPH	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—
Water Quality Parameters														
Alkalinity (as CaCO3)	mg/l	—	—	—	—	—	—	68	—	—	—	—	—	—
Bicarbonate (as CaCO3)	mg/l	—	—	—	—	—	—	—	—	—	—	—	—	—
Chloride	mg/l	—	—	—	—	—	—	<2.0	—	—	—	—	—	—
Dissolved oxygen	mg/l	—	—	—	—	—	0.15	—	—	—	—	—	—	—
eH	mv	—	—	—	—	—	200.8	—	—	—	—	—	—	—
Ferric iron	mg/l	—	—	—	—	—	—	<0.10	—	—	—	—	—	—
Ferrous iron	mg/l	—	—	—	—	—	—	<0.10	—	—	—	—	—	—
Methane	mg/l	—	—	—	—	—	—	<0.010	—	—	—	—	—	—
Nitrate (as N)	mg/l	—	—	—	—	—	—	0.062	—	—	—	—	—	—
pH		—	—	—	—	—	7.42	—	—	—	—	—	—	—
Residue, filterable	mg/l	—	—	—	—	—	—	—	—	—	—	—	—	—
Specific conductivity	umhos/cm	—	—	—	—	—	284	—	—	—	—	—	—	—
Sulfate	mg/l	—	—	—	—	—	—	5	—	—	—	—	—	—
Sulfide	mg/l	—	—	—	—	—	—	<2.	—	—	—	—	—	—
Temperature	cent	—	—	—	—	—	7.07	—	—	—	—	—	—	—
Total organic carbon	mg/l	—	—	—	—	—	—	1.3	—	—	—	—	—	—
Turbidity	ntu	—	—	—	—	—	14.4	—	—	—	—	—	—	—

< = not detected at reporting limit
— = not analyzed
B = estimated (inorganics)
E = estimated
J = estimated
R = rejected
U = revised to non-detected

Table 7
Detected Parameters
Groundwater Samples
Hows Corner Superfund Site
Plymouth, Maine

Parameter	Units	MW-106S 1/16/2002 MW-106S (45.5') Primary	MW-106S 1/16/2002 MW-106S Primary	MW-106S 4/15/2003 MW-106S Primary	MW-106S 9/8/2004 MW-106S Primary	MW-107D 12/20/1999 MW-107D Primary	MW-107D 12/20/1999 MW-107D Primary	MW-107D 12/20/1999 MW-107D DUP Duplicate	MW-107D 5/22/2000 MW-107D Primary	MW-108D 12/21/1999 MW-108D Primary	MW-108D 12/22/1999 MW-108D Primary	MW-108D 5/25/2000 MW-108D Primary	MW-108D 6/9/2001 MW-108D Primary	MW-108D 1/16/2002 MW-108D (172') Primary	MW-108D 1/16/2002 MW-108D (175') Primary
Total Volatile Organic Compounds															
Acetone	ug/l	<5J	<5J	<5	<5	—	<5J	<5J	<5	—	<5J	<5	<5	<8J	<8J
Benzene	ug/l	<1	<1	<1	<1	---	<1	<1	<1	---	<1	<1	<1	<1	<1
2-Butanone	ug/l	<5J	<5J	<5	<5	---	<5	<5	<5	---	<5	<5	<5	<5J	<5J
n-Butylbenzene	ug/l	<1	<1	<1	<1	—	<1	<1	<1	—	<1	<1	<1	<1	<1
sec-Butylbenzene	ug/l	<1	<1	<1	<1	---	<1	<1	<1	---	<1	<1	<1	<1	<1
Carbon disulfide	ug/l	<2.0	<2.0	<1	<1	—	<2.0	<2.0	<2.0	—	<2.0	<2.0J	<2.0	<2.0	<2.0
Carbon tetrachloride	ug/l	<1	<1	<1	<1	—	<1	<1	<1	—	<1	<1	<1J	<1	<1
Chlorobenzene	ug/l	<1	<1	<1	<1	---	<1	<1	<1	---	<1	<1	<1	<1	<1
Chloroethane	ug/l	<2	<2	<2	<2	---	<2	<2	<2	---	<2	<2	<2	<2	<2
Chloroform	ug/l	<1	<1	<1	<1	—	<1	<1	<1	—	<1	<1	<1	<1	<1
Chloromethane	ug/l	<2	<2	<2	<2	—	<2	<2	<2	—	<2	<2	<2	<2	<2
2-Chlorotoluene	ug/l	<1	<1	<1	<1	---	<1	<1	<1	---	<1	<1	<1	<1	<1
4-Chlorotoluene	ug/l	<1	<1	<1	<1	—	<1	<1	<1	—	<1	<1	<1	<1	<1
Dibromochloromethane	ug/l	<1	<1	<1	<1	—	<1	<1	<1	—	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	ug/l	<1	<1	<1	<1	---	<1	<1	<1	---	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	ug/l	<1	<1	<1	<1	—	<1	<1	<1	—	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	ug/l	<1	<1	<1	<1	—	<1	<1	<1	—	<1	<1	<1	<1	<1
1,1-Dichloroethane	ug/l	<1	<1	<1	<1	---	<1	<1	<1	—	<1	<1	<1	<1	<1
1,1-Dichloroethene	ug/l	<1	<1	<1	<1	—	<1	<1	<1	---	<1	<1	<1	<1	<1
1,2-Dichloroethene	ug/l	—	—	—	—	—	—	—	—	---	—	---	—	—	—
cis-1,2-Dichloroethene	ug/l	<1	<1	<1	<1	—	<1	<1	<1	---	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	ug/l	<1	<1	<1	<1	---	<1	<1	<1	—	<1	<1	<1	<1	<1
Diethyl ether	ug/l	<2	<2	<1	<1	---	<2	<2	<2	---	<2	<2	<2	<2	<2
Ethylbenzene	ug/l	<1	<1	<1	<1	—	<1	<1	<1	---	<1	<1	<1	<1	<1
Hexachlorobutadiene	ug/l	<1	<1	<1	<1	—	<1	<1	<1J	—	<1	<1J	<1	<1	<1
Isopropylbenzene	ug/l	<1	<1	<1	<1	—	<1	<1	<1	---	<1	<1	<1	<1	<1
p-Isopropyltoluene	ug/l	<1	<1	<1	<1	—	<1	<1	<1	—	<1	<1	<1	<1	<1
Methylene chloride	ug/l	<1J	<1J	<1	<1	—	<1	<1	<1J	—	<1	<1J	<1J	<1J	<1J
MTBE	ug/l	<1	<1	<1	<2	---	<1	<1	<1	—	<1	<1	<1	<1	<1
Naphthalene	ug/l	<1	<1	<1	<1	—	<1	<1	<1	—	<1	<1	<1J	<1	<1
n-Propylbenzene	ug/l	<1	<1	<1	<1	—	<1	<1	<1	---	<1	<1	<1	<1	<1
1,1,1,2-Tetrachloroethane	ug/l	<1	<1	<1	<1	—	<1	<1	<1	—	<1	<1	<1	<1	<1
Tetrachloroethene	ug/l	<1	<1	<1	<1U	---	<1	<1	<1	—	<1	2	<2J	4	4
Tetrahydrofuran	ug/l	<10	<10	<10	<10	—	<10	<10	<10	—	<10	<10	<10	<10	<10
Toluene	ug/l	<1	<1	<1	<1	---	<1	<1	<1	—	0.8J	<1	<1	<1	<1
1,2,3-Trichlorobenzene	ug/l	<1J	<1J	<1J	<1	---	<1	<1	<1	—	<1	<1	<1J	<1	<1
1,2,4-Trichlorobenzene	ug/l	<1J	<1J	<1	<1	—	<1	<1	<1	—	<1	<1	<1	<1	<1
1,3,5-Trichlorobenzene	ug/l	<1	<1	<1	<1	—	<1	<1	<1	—	<1	<1	<1	<1	<1
1,1,1-Trichloroethane	ug/l	<1	<1	<1	<1	—	<1	<1	<1	---	<1	<1	0.6J	0.5J	0.5J
1,1,2-Trichloroethane	ug/l	<1	<1	<1	<1	—	<1	<1	<1	---	<1	<1	<1	<1	<1
Trichloroethene	ug/l	<1	<1	<1	<1	—	<1	<1	<1	—	<1	<1	<1	<1	<1
Trichlorofluoromethane	ug/l	<2	<2	<2	<2	—	<2	<2	<2	—	<2	<2	<2	<2	<2
1,2,4-Trimethylbenzene	ug/l	<1	<1	<1	<1	---	<1	<1	<1	---	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene	ug/l	<1	<1	<1	<1	—	<1	<1	<1	—	<1	<1	<1	<1	<1
Vinyl chloride	ug/l	<2	<2	<2	<2	---	<2	<2	<2	---	<2	<2	<2	<2	<2
o-Xylene	ug/l	<1	<1	<1	<1	---	<1	<1	<1	—	<1	<1	<1	<1	<1
m+p-Xylenes	ug/l	<1	<1	<1	<2	—	<1	<1	<1	—	<1	<1	<1	<1	<1

Table 7
Detected Parameters
Groundwater Samples
Hows Corner Superfund Site
Plymouth, Maine

Parameter	Units	MW-106S 1/16/2002 MW-106S (45.5') Primary	MW-106S 1/16/2002 MW-106S Primary	MW-106S 4/15/2003 MW-106S Primary	MW-106S 9/8/2004 MW-106S Primary	MW-107D 12/20/1999 MW-107D Primary	MW-107D 12/20/1999 MW-107D Primary	MW-107D 12/20/1999 MW-107D DUP Duplicate	MW-107D 5/22/2000 MW-107D Primary	MW-108D 12/21/1999 MW-108D Primary	MW-108D 12/22/1999 MW-108D Primary	MW-108D 5/25/2000 MW-108D Primary	MW-108D 6/9/2001 MW-108D Primary	MW-108D 1/16/2002 MW-108D (172') Primary	MW-108D 1/16/2002 MW-108D (175') Primary
Dissolved Volatile Organic Compound															
Tetrachloroethylene	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Semi-Volatile Organic Compounds															
bis(2-Ethylhexyl)phthalate	ug/l	—	—	—	—	—	<10	<11	<10	—	—	—	—	—	—
Phenol	ug/l	—	—	—	—	—	<10	<11	<10	—	—	—	—	—	—
PCBs															
Aroclor 1260	ug/l	—	—	—	—	—	<0.10	<0.10	—	—	—	—	—	—	—
Dichlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Heptachlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hexachlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Nonachlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Octachlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Pentachlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tetrachlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Trichlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Pesticides															
Dieldrin	ug/l	—	—	<0.1	—	—	—	—	—	—	—	—	—	—	—
Total Inorganics															
Aluminum	ug/l	—	—	—	—	—	<100	<100	161	—	—	—	—	—	—
Antimony	ug/l	—	—	—	—	—	<8.0	<8.0	<8.0	—	—	—	—	—	—
Arsenic	ug/l	—	—	2.6J	—	—	<8.0	<8.0	<8.0	—	—	—	—	—	—
Barium	ug/l	—	—	—	—	—	<5.0	13.2	10.8	—	—	—	—	—	—
Beryllium	ug/l	—	—	—	—	—	<5.0	<5.0	<5.0	—	—	—	—	—	—
Cadmium	ug/l	—	—	—	—	—	<10	<10	<10	—	—	—	—	—	—
Calcium	ug/l	—	—	—	—	—	21200J	20700J	27700	—	—	—	—	—	—
Chromium	ug/l	—	—	—	—	—	<15	<15	<15	—	—	—	—	—	—
Cobalt	ug/l	—	—	—	—	—	<30	<30	<30	—	—	—	—	—	—
Copper	ug/l	—	—	—	—	—	<25	<25	<25	—	—	—	—	—	—
Iron	ug/l	—	—	—	—	—	<50	<50	138	—	—	—	—	—	—
Lead	ug/l	—	—	—	—	—	<5.0	<5.0	<5.0	—	—	—	—	—	—
Magnesium	ug/l	—	—	—	—	—	14700J	14200	16400	—	—	—	—	—	—
Manganese	ug/l	—	—	407	—	—	3.9	4.6	21.4	—	—	—	—	—	—
Mercury	ug/l	—	—	—	—	—	<0.20	0.03	0.04BJN	—	—	—	—	—	—
Nickel	ug/l	—	—	—	—	—	<40	<40	<40	—	—	—	—	—	—
Potassium	ug/l	—	—	—	—	—	454J	646J	595B	—	—	—	—	—	—
Selenium	ug/l	—	—	—	—	—	<10	<10	<10	—	—	—	—	—	—
Silver	ug/l	—	—	—	—	—	<15	<15	<15	—	—	—	—	—	—
Sodium	ug/l	—	—	—	—	—	7870	7810	12500	—	—	—	—	—	—
Thallium	ug/l	—	—	—	—	—	<15	<15	<15	—	—	—	—	—	—
Vanadium	ug/l	—	—	—	—	—	<25	<25	4.1B	—	—	—	—	—	—
Zinc	ug/l	—	—	—	—	—	<25	<25	<25	—	—	—	—	—	—
Dissolved Inorganics															
Aluminum	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arsenic	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Calcium	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Chromium	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Iron	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Lead	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Magnesium	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manganese	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mercury	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sodium	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Table 7
Detected Parameters
Groundwater Samples
Hows Corner Superfund Site
Plymouth, Maine

Parameter	Units	MW-106S 1/16/2002 MW-106S (45.5') Primary	MW-106S 1/16/2002 MW-106S Primary	MW-106S 4/15/2003 MW-106S Primary	MW-106S 9/8/2004 MW-106S Primary	MW-107D 12/20/1999 MW-107D Primary	MW-107D 12/20/1999 MW-107D Primary	MW-107D 12/20/1999 MW-107D DUP Duplicate	MW-107D 5/22/2000 MW-107D Primary	MW-108D 12/21/1999 MW-108D Primary	MW-108D 12/22/1999 MW-108D Primary	MW-108D 5/25/2000 MW-108D Primary	MW-108D 6/9/2001 MW-108D Primary	MW-108D 1/16/2002 MW-108D (172') Primary	MW-108D 1/16/2002 MW-108D (175') Primary
Petroleum Hydrocarbons															
TPH	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Water Quality Parameters															
Alkalinity (as CaCO3)	mg/l	—	—	—	—	—	140	140	—	—	—	—	—	—	—
Bicarbonate (as CaCO3)	mg/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Chloride	mg/l	—	—	—	—	—	<2.0	<2.0	—	—	—	—	—	—	—
Dissolved oxygen	mg/l	—	—	—	—	0.6	—	—	—	5.68	—	—	—	—	—
eH	mv	—	—	—	—	119.6	—	—	—	124.8	—	—	—	—	—
Ferric iron	mg/l	—	—	—	—	—	<0.10	<0.10	—	—	—	—	—	—	—
Ferrous iron	mg/l	—	—	—	—	—	<0.10	<0.10	—	—	—	—	—	—	—
Methane	mg/l	—	—	—	—	—	<0.010	<0.010	—	—	—	—	—	—	—
Nitrate (as N)	mg/l	—	—	—	—	—	0.06	0.061	—	—	—	—	—	—	—
pH		—	—	—	—	7.87	—	—	—	7.55	—	—	—	—	—
Residue, filterable	mg/l	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Specific conductivity	umhos/cm	—	—	—	—	251	—	—	—	207	—	—	—	—	—
Sulfate	mg/l	—	—	—	—	—	6.4	6.9	—	—	—	—	—	—	—
Sulfide	mg/l	—	—	—	—	—	6.8	<4.0	—	—	—	—	—	—	—
Temperature	cent	—	—	—	—	6.98	—	—	—	7.88	—	—	—	—	—
Total organic carbon	mg/l	—	—	—	—	—	1.2	1.2	—	—	—	—	—	—	—
Turbidity	ntu	—	—	—	—	0.99	—	—	—	12.6	—	—	—	—	—

< = not detected at reporting limit
--- = not analyzed
B = estimated (inorganics)
E = estimated
J = estimated
R = rejected
U = revised to non-detected

Table 7
Detected Parameters
Groundwater Samples
Hows Corner Superfund Site
Plymouth, Maine

Parameter	Units	MW-108D 1/16/2002 DUP-2 Duplicate	MW-108D 1/16/2002 MW-108D (178') Primary	MW-108D 1/16/2002 MW-108D Primary	MW-108D 1/16/2002 DUP-3 Duplicate	MW-108D 4/15/2003 MW-108D Primary	MW-108D 9/8/2004 MW-108D Primary	MW-108S 12/20/1999 MW-108S Primary	MW-108S 12/20/1999 MW-108S Primary	MW-108S 5/25/2000 MW-108S Primary	MW-108S 6/9/2001 MW-108S Primary	MW-108S 1/16/2002 MW-108S (32') Primary	MW-108S 1/16/2002 MW-108S (35.5') Primary	MW-108S 1/16/2002 MW-108S (40') Primary
Total Volatile Organic Compounds														
Acetone	ug/l	7J	<7J	<5J	<5J	<5J	5J	—	<5J	<5	<5	<7J	<6J	<8J
Benzene	ug/l	<1	<1	<1	<1	<1	<1	---	<1	<1	<1	<1	<1	<1
2-Butanone	ug/l	<5J	<5J	<5J	<5J	<5	<5	—	<5	<5	<5	<5J	<5J	<5J
n-Butylbenzene	ug/l	<1	<1	<1	<1	<1	<1	---	<1	<1	<1	<1	<1	<1
sec-Butylbenzene	ug/l	<1	<1	<1	<1	<1	<1	---	<1	<1	<1	<1	<1	<1
Carbon disulfide	ug/l	<2.0	<2.0	<2.0	<2.0	2	0.3J	—	<2.0	<2.0J	<2.0	<2.0	<2.0	<2.0
Carbon tetrachloride	ug/l	<1	<1	<1	<1	<1	<1	—	<1	<1	<1J	<1	<1	<1
Chlorobenzene	ug/l	<1	<1	<1	<1	<1	<1	---	<1	<1	<1	<1	<1	<1
Chloroethane	ug/l	<2	<2	<2	<2	<2	<2	---	<2	<2	<2	<2	<2	<2
Chloroform	ug/l	<1	<1	<1	<1	<1	<1	—	<1	<1	<1	0.9J	0.9J	1
Chloromethane	ug/l	<2	<2	<2	<2	<2J	<2	---	<2	<2	<2	<2	<2	<2
2-Chlorotoluene	ug/l	<1	<1	<1	<1	0.3J	<1	---	<1	<1	<1	<1	<1	<1
4-Chlorotoluene	ug/l	<1	<1	<1	<1	<1	<1	—	<1	<1	<1	<1	<1	<1
Dibromochloromethane	ug/l	<1	<1	<1	<1	<1	<1	---	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	ug/l	<1	<1	<1	<1	<1	<1	---	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	ug/l	<1	<1	<1	<1	<1	<1	—	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	ug/l	<1	<1	<1	<1	<1	<1	---	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	ug/l	<1	<1	<1	<1	<1	<1	---	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	ug/l	<1	<1	<1	<1	<1	<1	---	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—
cis-1,2-Dichloroethene	ug/l	<1	<1	<1	<1	<1	<1	---	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	ug/l	<1	<1	<1	<1	<1	<1	---	<1	<1	<1	<1	<1	<1
Diethyl ether	ug/l	<2	<2	<2J	<2	<1	<1	—	<2	<2	<2	<2	<2	<2
Ethylbenzene	ug/l	<1	<1	<1	<1	<1	<1	—	<1	<1	<1	<1	<1	<1
Hexachlorobutadiene	ug/l	<1	<1	<1	<1	<1	<1	—	<1	<1J	<1	<1	<1	<1
Isopropylbenzene	ug/l	<1	<1	<1	<1	<1	<1	—	<1	<1	<1	<1	<1	<1
p-Isopropyltoluene	ug/l	<1	<1	<1	<1	<1	<1	—	<1	<1	<1	<1	<1	<1
Methylene chloride	ug/l	<1J	<1	<1J	<1	<1	<1	---	<1	<1J	<1J	<1J	<1J	<1J
MTBE	ug/l	<1	<1	<1	<1	<1	<2	—	<1	<1	<1	<1	<1	<1
Naphthalene	ug/l	<1	<1	<1	<1	<1J	<1	---	<1	<1	<1J	<1	<1	<1
n-Propylbenzene	ug/l	<1	<1	<1	<1	<1	<1	—	<1	<1	<1	<1	<1	<1
1,1,1,2-Tetrachloroethane	ug/l	<1	<1	<1	<1	<1	<1	—	<1	<1	<1	<1	<1	<1
Tetrachloroethene	ug/l	4	4	<1	<1	<1	<1	—	5	4	12J	11	11	12
Tetrahydrofuran	ug/l	<10	<10	<10	<10	<10	<10	—	<10	<10	<10	<10	<10	<10
Toluene	ug/l	<1	<1	<1	<1	<1U	0.6J	---	<1	<1	<1	<1	<1	<1
1,2,3-Trichlorobenzene	ug/l	<1	<1	<1	<1	<1J	<1	—	<1	<1	<1J	<1	<1	<1
1,2,4-Trichlorobenzene	ug/l	<1	<1	<1	<1	<1	<1	---	<1	<1	<1	<1	<1	<1
1,3,5-Trichlorobenzene	ug/l	<1	<1	<1	<1	<1	<1	---	<1	<1	<1	<1	<1	<1
1,1,1-Trichloroethane	ug/l	<1	0.8J	0.7J	0.6J	<1	<1	---	0.9J	0.8J	2J	4	4	4
1,1,2-Trichloroethane	ug/l	<1	<1	<1	<1	<1	<1	—	<1	<1	<1	<1	<1	<1
Trichloroethene	ug/l	<1	<1	<1	<1	<1	<1	---	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	ug/l	<2	<2	<2	<2	<2	<2	—	<2	<2	<2	<2	<2	<2
1,2,4-Trimethylbenzene	ug/l	<1	<1	<1	<1	<1	<1	---	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene	ug/l	<1	<1	<1	<1	<1	<1	—	<1	<1	<1	<1	<1	<1
Vinyl chloride	ug/l	<2	<2	<2	<2	0.2J	<2	---	<2	<2	<2	<2	<2	<2
o-Xylene	ug/l	<1	<1	<1	<1	<1	<1	—	<1	<1	<1	<1	<1	<1
m+p-Xylenes	ug/l	<1	<1	<1	<1	<1	<2	---	<1	<1	<1	<1	<1	<1

Table 7
Detected Parameters
Groundwater Samples
Hows Corner Superfund Site
Plymouth, Maine

Parameter	Units	MW-108D 1/16/2002 DUP-2 Duplicate	MW-108D 1/16/2002 MW-108D (178') Primary	MW-108D 1/16/2002 MW-108D Primary	MW-108D 1/16/2002 DUP-3 Duplicate	MW-108D 4/15/2003 MW-108D Primary	MW-108D 9/8/2004 MW-108D Primary	MW-108S 12/20/1999 MW-108S Primary	MW-108S 12/20/1999 MW-108S Primary	MW-108S 5/25/2000 MW-108S Primary	MW-108S 6/9/2001 MW-108S Primary	MW-108S 1/16/2002 MW-108S (32') Primary	MW-108S 1/16/2002 MW-108S (35.5') Primary	MW-108S 1/16/2002 MW-108S (40') Primary
Dissolved Volatile Organic Compound														
Tetrachloroethylene	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—
Semi-Volatile Organic Compounds														
bis(2-Ethylhexyl)phthalate	ug/l	—	—	—	—	—	—	—	<12	<10	—	—	—	—
Phenol	ug/l	—	—	—	—	—	—	—	<12	<10	—	—	—	—
PCBs														
Aroclor 1260	ug/l	—	—	—	—	—	—	—	<0.10	—	—	—	—	—
Dichlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	—	—	—	—	—
Heptachlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	—	—	—	—	—
Hexachlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	—	—	—	—	—
Nonachlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	—	—	—	—	—
Octachlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	—	—	—	—	—
Pentachlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	—	—	—	—	—
Tetrachlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	—	—	—	—	—
Trichlorobiphenyl	ng/l	—	—	—	—	—	—	—	—	—	—	—	—	—
Pesticides														
Dieldrin	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—
Total Inorganics														
Aluminum	ug/l	—	—	—	—	—	—	—	<100	155	—	—	—	—
Antimony	ug/l	—	—	—	—	—	—	—	<8.0	<8.0	—	—	—	—
Arsenic	ug/l	—	—	—	—	3.2J	—	—	<8.0	<8.0	—	—	—	—
Barium	ug/l	—	—	—	—	—	—	—	<5.0	<5.0	—	—	—	—
Beryllium	ug/l	—	—	—	—	—	—	—	<5.0	0.65B	—	—	—	—
Cadmium	ug/l	—	—	—	—	—	—	—	<10	<10	—	—	—	—
Calcium	ug/l	—	—	—	—	—	—	—	11800J	11100	—	—	—	—
Chromium	ug/l	—	—	—	—	—	—	—	<15	<15	—	—	—	—
Cobalt	ug/l	—	—	—	—	—	—	—	<30	<30	—	—	—	—
Copper	ug/l	—	—	—	—	—	—	—	<25	<25	—	—	—	—
Iron	ug/l	—	—	—	—	—	—	—	<50	237	—	—	—	—
Lead	ug/l	—	—	—	—	—	—	—	<5.0	<5.0	—	—	—	—
Magnesium	ug/l	—	—	—	—	—	—	—	4090J	3520	—	—	—	—
Manganese	ug/l	—	—	—	—	65.7	—	—	<5.0	3.7B	—	—	—	—
Mercury	ug/l	—	—	—	—	—	—	—	<0.20	<0.20	—	—	—	—
Nickel	ug/l	—	—	—	—	—	—	—	<40	<40	—	—	—	—
Potassium	ug/l	—	—	—	—	—	—	—	721	370B	—	—	—	—
Selenium	ug/l	—	—	—	—	—	—	—	<10	<10	—	—	—	—
Silver	ug/l	—	—	—	—	—	—	—	<15	<15	—	—	—	—
Sodium	ug/l	—	—	—	—	—	—	—	3150	2500	—	—	—	—
Thallium	ug/l	—	—	—	—	—	—	—	<15	<15	—	—	—	—
Vanadium	ug/l	—	—	—	—	—	—	—	<25	<25	—	—	—	—
Zinc	ug/l	—	—	—	—	—	—	—	<25	<25	—	—	—	—
Dissolved Inorganics														
Aluminum	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—
Arsenic	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—
Calcium	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—
Chromium	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—
Iron	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—
Lead	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—
Magnesium	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—
Manganese	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—
Mercury	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—
Sodium	ug/l	—	—	—	—	—	—	—	—	—	—	—	—	—

Table 7
Detected Parameters
Groundwater Samples
Hows Corner Superfund Site
Plymouth, Maine

Parameter	Units	MW-108D 1/16/2002 DUP-2 Duplicate	MW-108D 1/16/2002 MW-108D (178') Primary	MW-108D 1/16/2002 MW-108D Primary	MW-108D 1/16/2002 DUP-3 Duplicate	MW-108D 4/15/2003 MW-108D Primary	MW-108D 9/8/2004 MW-108D Primary	MW-108S 12/20/1999 MW-108S Primary	MW-108S 12/20/1999 MW-108S Primary	MW-108S 5/25/2000 MW-108S Primary	MW-108S 6/9/2001 MW-108S Primary	MW-108S 1/16/2002 MW-108S (32') Primary	MW-108S 1/16/2002 MW-108S (35.5') Primary	MW-108S 1/16/2002 MW-108S (40') Primary
Petroleum Hydrocarbons														
TPH	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---
Water Quality Parameters														
Alkalinity (as CaCO3)	mg/l	---	---	---	---	---	---	---	---	---	---	---	---	---
Bicarbonate (as CaCO3)	mg/l	---	---	---	---	---	---	---	---	---	---	---	---	---
Chloride	mg/l	---	---	---	---	---	---	---	---	---	---	---	---	---
Dissolved oxygen	mg/l	---	---	---	---	---	---	4.82	---	---	---	---	---	---
eH	mv	---	---	---	---	---	---	17.1	---	---	---	---	---	---
Ferric iron	mg/l	---	---	---	---	---	---	---	---	---	---	---	---	---
Ferrous iron	mg/l	---	---	---	---	---	---	---	---	---	---	---	---	---
Methane	mg/l	---	---	---	---	---	---	---	---	---	---	---	---	---
Nitrate (as N)	mg/l	---	---	---	---	---	---	---	---	---	---	---	---	---
pH		---	---	---	---	---	---	6.69	---	---	---	---	---	---
Residue, filterable	mg/l	---	---	---	---	---	---	---	---	---	---	---	---	---
Specific conductivity	umhos/cm	---	---	---	---	---	---	110	---	---	---	---	---	---
Sulfate	mg/l	---	---	---	---	---	---	---	---	---	---	---	---	---
Sulfide	mg/l	---	---	---	---	---	---	---	---	---	---	---	---	---
Temperature	cent	---	---	---	---	---	---	7.36	---	---	---	---	---	---
Total organic carbon	mg/l	---	---	---	---	---	---	---	---	---	---	---	---	---
Turbidity	ntu	---	---	---	---	---	---	1.57	---	---	---	---	---	---

< = not detected at reporting limit
--- = not analyzed
B = estimated (inorganics)
E = estimated
J = estimated
R = rejected
U = revised to non-detected

Table 7
Detected Parameters
Groundwater Samples
Hows Corner Superfund Site
Plymouth, Maine

Parameter	Units	MW-108S 1/16/2002 MW-108S (44.5') Primary	MW-108S 1/16/2002 MW-108S (48') Primary	MW-108S 1/16/2002 MW-108S Primary	MW-108S 4/15/2003 MW-108S Primary	MW-108S 9/8/2004 MW-108S Primary	MW-110D 12/20/1999 MW-110D Primary	MW-110D 12/20/1999 MW-110D Primary	MW-110D 5/24/2000 MW-110D Primary	MW-111D 12/17/1999 MW-111D Primary	MW-111D 12/17/1999 MW-111D Primary	MW-111D 5/22/2000 MW-111D Primary
Total Volatile Organic Compounds												
Acetone	ug/l	<7J	<7J	<5J	<5J	9	—	<5J	<5	—	<5J	<5
Benzene	ug/l	<1	<1	<1	<1	<1	—	<1	<1	—	<1	<1
2-Butanone	ug/l	<5J	<5J	<5J	<5	<5	—	<5	<5	—	<5J	<5
n-Butylbenzene	ug/l	<1	<1	<1	<1	<1	—	<1	<1	—	<1	<1
sec-Butylbenzene	ug/l	<1	<1	<1	<1	<1	—	<1	<1	—	<1	<1
Carbon disulfide	ug/l	<2.0	<2.0	<2.0	<1	<1	—	<2.0	1J	—	<2.0	<2.0
Carbon tetrachloride	ug/l	<1	<1	<1	<1	<1	—	<1	<1	—	<1	<1
Chlorobenzene	ug/l	<1	<1	<1	<1	<1	—	<1	<1	—	<1	<1
Chloroethane	ug/l	<2	<2	<2	<2J	<2	—	<2	<2	—	<2	<2
Chloroform	ug/l	0.9J	0.7J	0.9J	<1	0.2J	—	<1	<1	—	<1	<1
Chloromethane	ug/l	<2	<2	<2	<2	<2	—	<2	<2	—	<2	<2
2-Chlorotoluene	ug/l	<1	<1	<1	<1	<1	—	<1	<1	—	<1	<1
4-Chlorotoluene	ug/l	<1	<1	<1	<1	<1	—	<1	<1	—	<1	<1
Dibromochloromethane	ug/l	<1	<1	<1	<1	<1	—	<1	<1	—	<1	<1
1,2-Dichlorobenzene	ug/l	<1	<1	<1	<1	<1	—	<1	<1	—	<1	<1
1,3-Dichlorobenzene	ug/l	<1	<1	<1	<1	<1	—	<1	<1	—	<1	<1
1,4-Dichlorobenzene	ug/l	<1	<1	<1	<1	<1	—	<1	<1	—	<1	<1
1,1-Dichloroethane	ug/l	<1	<1	<1	<1	<1	—	<1	<1	—	<1	<1
1,1-Dichloroethene	ug/l	<1	<1	<1	<1	<1	—	<1	<1	—	<1	<1
1,2-Dichloroethene	ug/l	—	—	—	—	—	—	—	—	—	—	—
cis-1,2-Dichloroethene	ug/l	<1	<1	<1	13J	<1	—	<1	<1	—	<1	2
trans-1,2-Dichloroethene	ug/l	<1	<1	<1	<1	<1	—	<1	<1	—	<1	<1
Diethyl ether	ug/l	<2	<2	<2	<1	0.2J	—	<2	<2	—	<2	<2
Ethylbenzene	ug/l	<1	<1	<1	<1	<1	—	<1	<1	—	<1	<1
Hexachlorobutadiene	ug/l	<1	<1	<1	<1	<1	—	<1	<1	—	<1	<1J
Isopropylbenzene	ug/l	<1	<1	<1	<1	<1	—	<1	<1	—	<1	<1
p-Isopropyltoluene	ug/l	<1	<1	<1	<1	<1	—	<1	<1	—	<1	<1
Methylene chloride	ug/l	<1J	<1J	<1J	<1	<1	—	<1	<1J	—	<1	<1J
MTBE	ug/l	<1	<1	<1	<1	<2	—	<1	<1	—	<1	<1
Naphthalene	ug/l	<1	<1	<1	<1J	<1	—	<1	<1	—	<1	<1
n-Propylbenzene	ug/l	<1	<1	<1	<1	<1	—	<1	<1	—	<1	<1
1,1,1,2-Tetrachloroethane	ug/l	<1	<1	<1	<1	<1	—	<1	<1	—	<1	<1
Tetrachloroethene	ug/l	11	8	10	6J	23	—	4	5	—	12	5
Tetrahydrofuran	ug/l	<10	<10	<10	<10	<10	—	<10	<10	—	<10	<10
Toluene	ug/l	<1	<1	<1	<1	<1	—	<1	<1	—	<1	<1
1,2,3-Trichlorobenzene	ug/l	<1	<1	<1	<1J	<1	—	<1	<1	—	<1	<1
1,2,4-Trichlorobenzene	ug/l	<1	<1	<1	<1	<1	—	<1	<1	—	<1	<1
1,3,5-Trichlorobenzene	ug/l	<1	<1	<1	<1	<1	—	<1	<1	—	<1	<1
1,1,1-Trichloroethane	ug/l	4	4	4	<1	2	—	2	2	—	0.9J	<1
1,1,2-Trichloroethane	ug/l	<1	<1	<1	<1	<1	—	<1	<1	—	<1	<1
Trichloroethene	ug/l	<1	<1	<1	<1	0.5J	—	<1	<1	—	2	0.8J
Trichlorofluoromethane	ug/l	<2	<2	<2	<2	<2	—	<2	<2	—	<2	<2
1,2,4-Trimethylbenzene	ug/l	<1	<1	<1	<1	<1	—	<1	<1	—	<1	<1
1,3,5-Trimethylbenzene	ug/l	<1	<1	<1	<1	<1	—	<1	<1	—	<1	<1
Vinyl chloride	ug/l	<2	<2	<2	1J	<2	—	<2	<2	—	<2	<2
o-Xylene	ug/l	<1	<1	<1	<1	<1	—	<1	<1	—	<1	<1
m+p-Xylenes	ug/l	<1	<1	<1	<1	<2	—	<1	<1	—	<1	<1

Table 7
Detected Parameters
Groundwater Samples
Hows Corner Superfund Site
Plymouth, Maine

Parameter	Units	MW-108S 1/16/2002 MW-108S (44.5') Primary	MW-108S 1/16/2002 MW-108S (48') Primary	MW-108S 1/16/2002 MW-108S Primary	MW-108S 4/15/2003 MW-108S Primary	MW-108S 9/8/2004 MW-108S Primary	MW-110D 12/20/1999 MW-110D Primary	MW-110D 12/20/1999 MW-110D Primary	MW-110D 5/24/2000 MW-110D Primary	MW-111D 12/17/1999 MW-111D Primary	MW-111D 12/17/1999 MW-111D Primary	MW-111D 5/22/2000 MW-111D Primary
Dissolved Volatile Organic Compound												
Tetrachloroethylene	ug/l	---	---	---	---	---	---	---	---	---	---	---
Semi-Volatile Organic Compounds												
bis(2-Ethylhexyl)phthalate	ug/l	---	---	---	---	---	---	<10	<10	---	<10	<10
Phenol	ug/l	---	---	---	---	---	---	<10	<10	---	<10	<10
PCBs												
Aroclor 1260	ug/l	---	---	---	---	---	---	<0.10	---	---	<0.10	---
Dichlorobiphenyl	ng/l	---	---	---	---	---	---	---	---	---	---	---
Heptachlorobiphenyl	ng/l	---	---	---	---	---	---	---	---	---	---	---
Hexachlorobiphenyl	ng/l	---	---	---	---	---	---	---	---	---	---	---
Nonachlorobiphenyl	ng/l	---	---	---	---	---	---	---	---	---	---	---
Octachlorobiphenyl	ng/l	---	---	---	---	---	---	---	---	---	---	---
Pentachlorobiphenyl	ng/l	---	---	---	---	---	---	---	---	---	---	---
Tetrachlorobiphenyl	ng/l	---	---	---	---	---	---	---	---	---	---	---
Trichlorobiphenyl	ng/l	---	---	---	---	---	---	---	---	---	---	---
Pesticides												
Dieldrin	ug/l	---	---	---	---	---	---	---	---	---	---	---
Total Inorganics												
Aluminum	ug/l	---	---	---	---	---	---	<100	<100	---	<100	<100
Antimony	ug/l	---	---	---	---	---	---	<8.0	<8.0	---	2.7J	<8.0
Arsenic	ug/l	---	---	---	<1.80J	---	---	<8.0	<8.0	---	40.7	37.3
Barium	ug/l	---	---	---	---	---	---	32.6J	29.6J	---	70.0J	53.9
Beryllium	ug/l	---	---	---	---	---	---	<5.0	<5.0	---	<5.0	<5.0
Cadmium	ug/l	---	---	---	---	---	---	<10	<10	---	<10	<10
Calcium	ug/l	---	---	---	---	---	---	31800J	33000	---	31200	34400
Chromium	ug/l	---	---	---	---	---	---	<15	<15	---	<15	<15
Cobalt	ug/l	---	---	---	---	---	---	<30	<30	---	<30	<30
Copper	ug/l	---	---	---	---	---	---	<25	<25	---	2.7J	<25
Iron	ug/l	---	---	---	---	---	---	<50	73.3	---	125	199
Lead	ug/l	---	---	---	---	---	---	<5.0	<5.0	---	1.1J	<5.0
Magnesium	ug/l	---	---	---	---	---	---	12200J	12400	---	15500	18600
Manganese	ug/l	---	---	---	<0.15	---	---	188	249	---	37.6	200
Mercury	ug/l	---	---	---	---	---	---	<0.20	<0.20	---	0.05J	0.04BJN
Nickel	ug/l	---	---	---	---	---	---	<40	<40	---	<40	<40
Potassium	ug/l	---	---	---	---	---	---	599	<1000	---	<1000	1450
Selenium	ug/l	---	---	---	---	---	---	<10	<10	---	<10	<10
Silver	ug/l	---	---	---	---	---	---	<15	<15	---	<15	<15
Sodium	ug/l	---	---	---	---	---	---	4100	4360	---	4370	4350
Thallium	ug/l	---	---	---	---	---	---	<15	<15	---	<15	<15
Vanadium	ug/l	---	---	---	---	---	---	<25	<25	---	<25	<25
Zinc	ug/l	---	---	---	---	---	---	<25	6.9B	---	44.7	<25
Dissolved Inorganics												
Aluminum	ug/l	---	---	---	---	---	---	---	---	---	---	---
Arsenic	ug/l	---	---	---	---	---	---	---	---	---	---	---
Calcium	ug/l	---	---	---	---	---	---	---	---	---	---	---
Chromium	ug/l	---	---	---	---	---	---	---	---	---	---	---
Iron	ug/l	---	---	---	---	---	---	---	---	---	---	---
Lead	ug/l	---	---	---	---	---	---	---	---	---	---	---
Magnesium	ug/l	---	---	---	---	---	---	---	---	---	---	---
Manganese	ug/l	---	---	---	---	---	---	---	---	---	---	---
Mercury	ug/l	---	---	---	---	---	---	---	---	---	---	---
Sodium	ug/l	---	---	---	---	---	---	---	---	---	---	---

Table 7
Detected Parameters
Groundwater Samples
Hows Corner Superfund Site
Plymouth, Maine

Parameter	Units	MW-108S 1/16/2002 MW-108S (44.5') Primary	MW-108S 1/16/2002 MW-108S (48') Primary	MW-108S 1/16/2002 MW-108S Primary	MW-108S 4/15/2003 MW-108S Primary	MW-108S 9/8/2004 MW-108S Primary	MW-110D 12/20/1999 MW-110D Primary	MW-110D 12/20/1999 MW-110D Primary	MW-110D 5/24/2000 MW-110D Primary	MW-111D 12/17/1999 MW-111D Primary	MW-111D 12/17/1999 MW-111D Primary	MW-111D 5/22/2000 MW-111D Primary
Petroleum Hydrocarbons												
TPH	ug/l	—	—	—	—	—	—	—	—	—	—	—
Water Quality Parameters												
Alkalinity (as CaCO3)	mg/l	—	—	—	—	—	—	140	—	—	160	—
Bicarbonate (as CaCO3)	mg/l	—	—	—	—	—	—	—	—	—	—	—
Chloride	mg/l	—	—	—	—	—	—	2.3	—	—	<2.0	—
Dissolved oxygen	mg/l	—	—	—	—	—	0.07	—	—	0.14	—	—
eH	mv	—	—	—	—	—	119	—	—	131.1	—	—
Ferric iron	mg/l	—	—	—	—	—	—	<0.10	—	—	0.12	—
Ferrous iron	mg/l	—	—	—	—	—	—	<0.10	—	—	<0.10	—
Methane	mg/l	—	—	—	—	—	—	<0.010	—	—	<0.010	—
Nitrate (as N)	mg/l	—	—	—	—	—	—	<0.050	—	—	<0.050	—
pH		—	—	—	—	—	7.7	—	—	7.5	—	—
Residue, filterable	mg/l	—	—	—	—	—	—	—	—	—	—	—
Specific conductivity	umhos/cm	—	—	—	—	—	255	—	—	312	—	—
Sulfate	mg/l	—	—	—	—	—	—	5.8	—	—	13	—
Sulfide	mg/l	—	—	—	—	—	—	<4.0	—	—	<2.	—
Temperature	cent	—	—	—	—	—	7.78	—	—	6.18	—	—
Total organic carbon	mg/l	—	—	—	—	—	—	1.2	—	—	2	—
Turbidity	ntu	—	—	—	—	—	0.79	—	—	1.8	—	—

< = not detected at reporting limit
--- = not analyzed
B = estimated (inorganics)
E = estimated
J = estimated
R = rejected
U = revised to non-detected

Table 7
Detected Parameters
Groundwater Samples
Hows Corner Superfund Site
Plymouth, Maine

Parameter	Units	WELL ID	MW-112D	MW-112D	MW-112D	MW-112D	MW-112D	MW-112D	MW-112D	MW-112D	MW-112D	MW-112D	MW-112D
		SAMPLE DATE	12/20/1999	12/20/1999	12/20/1999	5/24/2000	6/8/2001	1/15/2002	1/15/2002	1/15/2002	1/15/2002	4/16/2003	9/7/2004
		SAMPLE ID	MW-112D	MW-112D	MW-112D DUP	MW-112D	MW-112D	MW-112D (136')	MW-112D (139')	MW-112D (142')	MW-112D	MW-112D	MW-112D
		RESULT TYPE	Primary	Primary	Duplicate	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary
Total Volatile Organic Compounds													
Acetone	ug/l		---	<5J	---	<5	<5	<6J	<6J	<6J	<5J	<5	2J
Benzene	ug/l		---	<1	---	<1	<1	<1	<1	<1	<1	<1	<1
2-Butanone	ug/l		---	<5	---	<5	<5	<5J	<5J	<5J	<5J	<5	<5
n-Butylbenzene	ug/l		---	<1	---	<1	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene	ug/l		---	<1	---	<1	<1	<1	<1	<1	<1	<1	<1
Carbon disulfide	ug/l		---	<2.0	---	<2.0J	<2.0	<2.0	<2.0	<2.0	<2.0	<1	<1
Carbon tetrachloride	ug/l		---	<1	---	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	ug/l		---	<1	---	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	ug/l		---	<2	---	<2	<2	<2	<2	<2	<2	<2	<2
Chloroform	ug/l		---	<1	---	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane	ug/l		---	<2	---	<2	<2	<2	<2	<2	<2	<2	<2
2-Chlorotoluene	ug/l		---	<1	---	<1	<1	<1	<1	<1	<1	<1	<1
4-Chlorotoluene	ug/l		---	<1	---	<1	<1	<1	<1	<1	<1	<1	<1
Dibromochloromethane	ug/l		---	<1	---	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	ug/l		---	<1	---	<1	<1	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	ug/l		---	<1	---	<1	<1	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	ug/l		---	<1	---	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	ug/l		---	<1	---	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	ug/l		---	<1	---	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene	ug/l		---	---	---	---	---	---	---	---	---	---	---
cis-1,2-Dichloroethene	ug/l		---	<1	---	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	ug/l		---	<1	---	<1	<1	<1	<1	<1	<1	<1	<1
Diethyl ether	ug/l		---	<2	---	<2	<2	<2	<2	<2	<2	<1J	<1
Ethylbenzene	ug/l		---	<1	---	<1	<1	<1	<1	<1	<1	<1	<1
Hexachlorobutadiene	ug/l		---	<1	---	<1J	<1	<1	<1	<1	<1	<1	<1
Isopropylbenzene	ug/l		---	<1	---	<1	<1	<1	<1	<1	<1	<1	<1
p-Isopropyltoluene	ug/l		---	<1	---	<1	<1	<1	<1	<1	<1	<1	<1
Methylene chloride	ug/l		---	<1	---	<1	<1J	<1J	<1J	<1J	<1J	<1	<1
MTBE	ug/l		---	<1	---	<1	<1	<1	<1	<1	<1	<1	<2
Naphthalene	ug/l		---	<1	---	<1	<1	<1	<1	<1	<1	<1J	<1
n-Propylbenzene	ug/l		---	<1	---	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1,2-Tetrachloroethane	ug/l		---	<1	---	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	ug/l		---	0.6J	---	3	<1	<1	<1	<1	<1	<1	<1
Tetrahydrofuran	ug/l		---	<10	---	<10	<10	<10	<10	<10	<10	<10	<10
Toluene	ug/l		---	<1	---	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichlorobenzene	ug/l		---	<1	---	<1	<1	<1	<1	<1	<1	<1J	<1
1,2,4-Trichlorobenzene	ug/l		---	<1	---	<1	<1J	<1	<1	<1	<1	<1	<1
1,3,5-Trichlorobenzene	ug/l		---	<1	---	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-Trichloroethane	ug/l		---	<1	---	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	ug/l		---	<1	---	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	ug/l		---	<1	---	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	ug/l		---	<2	---	<2	<2	<2	<2	<2	<2	<2	<2
1,2,4-Trimethylbenzene	ug/l		---	<1	---	<1	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene	ug/l		---	<1	---	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl chloride	ug/l		---	<2	---	<2	<2	<2	<2	<2	<2	<2	<2
o-Xylene	ug/l		---	<1	---	<1	<1	<1	<1	<1	<1	<1	<1
m+p-Xylenes	ug/l		---	<1	---	<1	<1	<1	<1	<1	<1	<1	<2

Table 7
Detected Parameters
Groundwater Samples
Hows Corner Superfund Site
Plymouth, Maine

Parameter	Units	WELL ID	MW-112D	MW-112D	MW-112D	MW-112D	MW-112D	MW-112D	MW-112D	MW-112D	MW-112D	MW-112D	MW-112D
		SAMPLE DATE	12/20/1999	12/20/1999	12/20/1999	5/24/2000	6/8/2001	1/15/2002	1/15/2002	1/15/2002	1/15/2002	4/16/2003	9/7/2004
		SAMPLE ID	MW-112D	MW-112D	MW-112D DUP	MW-112D	MW-112D	MW-112D (136')	MW-112D (139')	MW-112D (142')	MW-112D	MW-112D	MW-112D
		RESULT TYPE	Primary	Primary	Duplicate	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary
Dissolved Volatile Organic Compounds													
Tetrachloroethylene	ug/l		---	---	---	---	---	---	---	---	---	---	---
Semi-Volatile Organic Compounds													
bis(2-Ethylhexyl)phthalate	ug/l		---	<10	---	<10	---	---	---	---	---	---	---
Phenol	ug/l		---	<10	---	<10	---	---	---	---	---	---	---
PCBs													
Aroclor 1260	ug/l		---	<0.10	---	---	---	---	---	---	---	---	---
Dichlorobiphenyl	ng/l		---	---	---	---	---	---	---	---	---	---	---
Heptachlorobiphenyl	ng/l		---	---	---	---	---	---	---	---	---	---	---
Hexachlorobiphenyl	ng/l		---	---	---	---	---	---	---	---	---	---	---
Nonachlorobiphenyl	ng/l		---	---	---	---	---	---	---	---	---	---	---
Octachlorobiphenyl	ng/l		---	---	---	---	---	---	---	---	---	---	---
Pentachlorobiphenyl	ng/l		---	---	---	---	---	---	---	---	---	---	---
Tetrachlorobiphenyl	ng/l		---	---	---	---	---	---	---	---	---	---	---
Trichlorobiphenyl	ng/l		---	---	---	---	---	---	---	---	---	---	---
Pesticides													
Dieldrin	ug/l		---	---	---	---	---	---	---	---	---	---	---
Total Inorganics													
Aluminum	ug/l		---	<100	---	<100	---	---	---	---	---	---	---
Antimony	ug/l		---	<8.0	---	<8.0	---	---	---	---	---	---	---
Arsenic	ug/l		---	<8.0	---	<8.0	---	---	---	---	---	<1.80J	---
Barium	ug/l		---	69.4J	---	88	---	---	---	---	---	---	---
Beryllium	ug/l		---	<5.0	---	0.63B	---	---	---	---	---	---	---
Cadmium	ug/l		---	<10	---	<10	---	---	---	---	---	---	---
Calcium	ug/l		---	24900J	---	27900	---	---	---	---	---	---	---
Chromium	ug/l		---	<15	---	<15	---	---	---	---	---	---	---
Cobalt	ug/l		---	<30	---	<30	---	---	---	---	---	---	---
Copper	ug/l		---	<25	---	<25	---	---	---	---	---	---	---
Iron	ug/l		---	<50	---	56.4	---	---	---	---	---	---	---
Lead	ug/l		---	<5.0	---	<5.0	---	---	---	---	---	---	---
Magnesium	ug/l		---	14700J	---	17100	---	---	---	---	---	---	---
Manganese	ug/l		---	27.9	---	42.6	---	---	---	---	---	30.8	---
Mercury	ug/l		---	<0.20	---	<0.20	---	---	---	---	---	---	---
Nickel	ug/l		---	<40	---	<40	---	---	---	---	---	---	---
Potassium	ug/l		---	1060	---	864B	---	---	---	---	---	---	---
Selenium	ug/l		---	<10	---	<10	---	---	---	---	---	---	---
Silver	ug/l		---	<15	---	<15	---	---	---	---	---	---	---
Sodium	ug/l		---	10300	---	8710	---	---	---	---	---	---	---
Thallium	ug/l		---	<15	---	<15	---	---	---	---	---	---	---
Vanadium	ug/l		---	<25	---	<25	---	---	---	---	---	---	---
Zinc	ug/l		---	<25	---	<25	---	---	---	---	---	---	---
Dissolved Inorganics													
Aluminum	ug/l		---	---	---	---	---	---	---	---	---	---	---
Arsenic	ug/l		---	---	---	---	---	---	---	---	---	---	---
Calcium	ug/l		---	---	---	---	---	---	---	---	---	---	---
Chromium	ug/l		---	---	---	---	---	---	---	---	---	---	---
Iron	ug/l		---	---	---	---	---	---	---	---	---	---	---
Lead	ug/l		---	---	---	---	---	---	---	---	---	---	---
Magnesium	ug/l		---	---	---	---	---	---	---	---	---	---	---
Manganese	ug/l		---	---	---	---	---	---	---	---	---	---	---
Mercury	ug/l		---	---	---	---	---	---	---	---	---	---	---
Sodium	ug/l		---	---	---	---	---	---	---	---	---	---	---

Table 7
Detected Parameters
Groundwater Samples
Hows Corner Superfund Site
Plymouth, Maine

Parameter	Units	WELL ID	MW-112D	MW-112D	MW-112D	MW-112D	MW-112D	MW-112D	MW-112D	MW-112D	MW-112D	MW-112D	MW-112D
		SAMPLE DATE	12/20/1999	12/20/1999	12/20/1999	5/24/2000	6/8/2001	1/15/2002	.1/15/2002	1/15/2002	1/15/2002	4/16/2003	9/7/2004
		SAMPLE ID	MW-112D	MW-112D	MW-112D DUP	MW-112D	MW-112D	MW-112D (136')	MW-112D (139')	MW-112D (142')	MW-112D	MW-112D	MW-112D
		RESULT TYPE	Primary	Primary	Duplicate	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary
Petroleum Hydrocarbons													
TPH	ug/l		---	---	---	---	---	---	---	---	---	---	---
Water Quality Parameters													
Alkalinity (as CaCO3)	mg/l		---	150	---	---	---	---	---	---	---	---	---
Bicarbonate (as CaCO3)	mg/l		---	---	---	---	---	---	---	---	---	---	---
Chloride	mg/l		---	<2.0	---	---	---	---	---	---	---	---	---
Dissolved oxygen	mg/l		0.44	---	---	---	---	---	---	---	---	---	---
eH	mv		178.2	---	---	---	---	---	---	---	---	---	---
Ferric iron	mg/l		---	<0.10	---	---	---	---	---	---	---	---	---
Ferrous iron	mg/l		---	<0.10	---	---	---	---	---	---	---	---	---
Methane	mg/l		---	<0.010	<0.010	---	---	---	---	---	---	---	---
Nitrate (as N)	mg/l		---	0.084	---	---	---	---	---	---	---	---	---
pH			7.74	---	---	---	---	---	---	---	---	---	---
Residue, filterable	mg/l		---	---	---	---	---	---	---	---	---	---	---
Specific conductivity	umhos/cm		276	---	---	---	---	---	---	---	---	---	---
Sulfate	mg/l		---	7	---	---	---	---	---	---	---	---	---
Sulfide	mg/l		---	5.6	---	---	---	---	---	---	---	---	---
Temperature	cent		7.54	---	---	---	---	---	---	---	---	---	---
Total organic carbon	mg/l		---	1.1	---	---	---	---	---	---	---	---	---
Turbidity	ntu		1.03	---	---	---	---	---	---	---	---	---	---

< = not detected at reporting limit
— = not analyzed
B = estimated (inorganics)
E = estimated
J = estimated
R = rejected
U = revised to non-detected

Table 7
Detected Parameters
Groundwater Samples
Hows Corner Superfund Site
Plymouth, Maine

Parameter	Units	MW-112S 12/20/1999 MW-112S Primary	MW-112S 12/20/1999 MW-112S Primary	MW-112S 5/24/2000 MW-112S Primary	MW-112S 6/8/2001 MW-112S Primary	MW-112S 6/8/2001 DUP-1 Duplicate	MW-112S 1/15/2002 MW-112S (42') Primary	MW-112S 1/15/2002 MW-112S (45') Primary	MW-112S 1/15/2002 DUP-1 Duplicate	MW-112S 1/15/2002 MW-112S (48') Primary	MW-112S 1/15/2002 MW-112S Primary	MW-112S 4/16/2003 MW-112S Primary	MW-112S 9/7/2004 MW-112S Primary	MW-113D 12/22/1999 MW-113D Primary	MW-113D 5/23/2000 MW-113D Primary
Total Volatile Organic Compounds															
Acetone	ug/l	---	<5J	<5J	<5J	<5	<5J	<6J	<7J	<6J	<5J	<5	<5	<5J	<5J
Benzene	ug/l	---	<1	<1	<1J	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-Butanone	ug/l	---	<5	<5J	<5J	<5	<5J	<5J	<5J	<5J	<5J	<5	<5	<5	<5J
n-Butylbenzene	ug/l	---	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene	ug/l	---	<1	<1	<1	<1	<1	<1	<1	<1J	<1	<1	<1	<1	<1
Carbon disulfide	ug/l	---	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<1	<1	<2.0	<2.0
Carbon tetrachloride	ug/l	---	<1	<1	<1	<1	<1	<1	<1	<1J	<1	<1	<1	<1	<1
Chlorobenzene	ug/l	---	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	ug/l	---	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Chloroform	ug/l	---	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane	ug/l	---	<2	<2J	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
2-Chlorotoluene	ug/l	---	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
4-Chlorotoluene	ug/l	---	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dibromochloromethane	ug/l	---	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	ug/l	---	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	ug/l	---	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	ug/l	---	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	ug/l	---	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	ug/l	---	<1	<1	<1	<1	<1	<1	<1	<1J	<1	<1	<1	<1	<1
1,2-Dichloroethene	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
cis-1,2-Dichloroethene	ug/l	---	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	1	2
trans-1,2-Dichloroethene	ug/l	---	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Diethyl ether	ug/l	---	<2	<2	<2	<2	<2	<2	<2	<2	<2	<1	<1	<2	<2
Ethylbenzene	ug/l	---	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Hexachlorobutadiene	ug/l	---	<1	<1	<1	<1	<1	<1	<1	<1J	<1	<1	<1	<1	<1
Isopropylbenzene	ug/l	---	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
p-Isopropyltoluene	ug/l	---	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methylene chloride	ug/l	---	<1	<1J	<1J	<1	<1J	<1J	<1J	<1J	<1J	<1	<1	<2	<1J
MTBE	ug/l	---	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1
Naphthalene	ug/l	---	<1	<1	<1J	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
n-Propylbenzene	ug/l	---	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1,2-Tetrachloroethane	ug/l	---	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	ug/l	---	<1	0.6J	<1J	<1	<1	<1	<1	<1J	<1	0.4J	<1	3	4
Tetrahydrofuran	ug/l	---	<10	<10R	<10	<10	<10	<10	<10	<10	<10	<10	<10	7J	7J
Toluene	ug/l	---	<1	<1	<1J	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichlorobenzene	ug/l	---	<1	<1	<1J	<1	<1	<1	<1	<1	<1J	<1J	<1	<1	<1
1,2,4-Trichlorobenzene	ug/l	---	<1	<1	<1J	<1	<1	<1	<1	<1	<1J	<1	<1	<1	<1
1,3,5-Trichlorobenzene	ug/l	---	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-Trichloroethane	ug/l	---	<1	<1	<1	<1	<1	<1	<1	<1J	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	ug/l	---	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	ug/l	---	<1	<1	<1	<1	<1	<1	<1	<1J	<1	<1	<1	2	4
Trichlorofluoromethane	ug/l	---	<2	<2	<2	<2	<2	<2	<2	<2J	<2	<2	<2	<2	<2J
1,2,4-Trimethylbenzene	ug/l	---	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene	ug/l	---	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl chloride	ug/l	---	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
o-Xylene	ug/l	---	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
m+p-Xylenes	ug/l	---	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1

Table 7
Detected Parameters
Groundwater Samples
Hows Corner Superfund Site
Plymouth, Maine

Parameter	Units	MW-112S 12/20/1999 MW-112S Primary	MW-112S 12/20/1999 MW-112S Primary	MW-112S 5/24/2000 MW-112S Primary	MW-112S 6/8/2001 MW-112S Primary	MW-112S 6/8/2001 DUP-1 Duplicate	MW-112S 1/15/2002 MW-112S (42') Primary	MW-112S 1/15/2002 MW-112S (45') Primary	MW-112S 1/15/2002 DUP-1 Duplicate	MW-112S 1/15/2002 MW-112S (48') Primary	MW-112S 1/15/2002 MW-112S Primary	MW-112S 4/16/2003 MW-112S Primary	MW-112S 9/7/2004 MW-112S Primary	MW-113D 12/22/1999 MW-113D Primary	MW-113D 5/23/2000 MW-113D Primary
Dissolved Volatile Organic Compounds															
Tetrachloroethylene	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Semi-Volatile Organic Compounds															
bis(2-Ethylhexyl)phthalate	ug/l	---	<10	<10	---	---	---	---	---	---	---	---	---	---	---
Phenol	ug/l	---	6J	<10	---	---	---	---	---	---	---	---	---	---	---
PCBs															
Aroclor 1260	ug/l	---	<0.10	---	---	---	---	---	---	---	---	---	---	---	---
Dichlorobiphenyl	ng/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Heptachlorobiphenyl	ng/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Hexachlorobiphenyl	ng/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Nonachlorobiphenyl	ng/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Octachlorobiphenyl	ng/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Pentachlorobiphenyl	ng/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Tetrachlorobiphenyl	ng/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Trichlorobiphenyl	ng/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Pesticides															
Dieldrin	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Total Inorganics															
Aluminum	ug/l	---	<100	<100	---	---	---	---	---	---	---	---	---	---	---
Antimony	ug/l	---	<8.0	<8.0	---	---	---	---	---	---	---	---	---	---	---
Arsenic	ug/l	---	<8.0	<8.0	---	---	---	---	---	---	---	<1.80J	---	---	---
Barium	ug/l	---	16.6E	<5.0	---	---	---	---	---	---	---	---	---	---	---
Beryllium	ug/l	---	<5.0	<5.0	---	---	---	---	---	---	---	---	---	---	---
Cadmium	ug/l	---	<10	<10	---	---	---	---	---	---	---	---	---	---	---
Calcium	ug/l	---	26600J	31000	---	---	---	---	---	---	---	---	---	---	---
Chromium	ug/l	---	<15	<15	---	---	---	---	---	---	---	---	---	---	---
Cobalt	ug/l	---	<30	<30	---	---	---	---	---	---	---	---	---	---	---
Copper	ug/l	---	<25	1.8B	---	---	---	---	---	---	---	---	---	---	---
Iron	ug/l	---	296	141	---	---	---	---	---	---	---	---	---	---	---
Lead	ug/l	---	<5.0	1.8B	---	---	---	---	---	---	---	---	---	---	---
Magnesium	ug/l	---	12300J	16600	---	---	---	---	---	---	---	---	---	---	---
Manganese	ug/l	---	25.9	3.0B	---	---	---	---	---	---	---	<2.6U	---	---	---
Mercury	ug/l	---	<0.20	0.04B	---	---	---	---	---	---	---	---	---	---	---
Nickel	ug/l	---	<40	<40	---	---	---	---	---	---	---	---	---	---	---
Potassium	ug/l	---	614	658B	---	---	---	---	---	---	---	---	---	---	---
Selenium	ug/l	---	<10	<10	---	---	---	---	---	---	---	---	---	---	---
Silver	ug/l	---	<15	<15	---	---	---	---	---	---	---	---	---	---	---
Sodium	ug/l	---	14200	4300	---	---	---	---	---	---	---	---	---	---	---
Thallium	ug/l	---	<15	<15	---	---	---	---	---	---	---	---	---	---	---
Vanadium	ug/l	---	<25	<25	---	---	---	---	---	---	---	---	---	---	---
Zinc	ug/l	---	<25	<25	---	---	---	---	---	---	---	---	---	---	---
Dissolved Inorganics															
Aluminum	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Arsenic	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Calcium	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chromium	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Lead	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Magnesium	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Manganese	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Mercury	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Sodium	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Table 7
Detected Parameters
Groundwater Samples
Hows Corner Superfund Site
Plymouth, Maine

Parameter	Units	MW-112S 12/20/1999 MW-112S Primary	MW-112S 12/20/1999 MW-112S Primary	MW-112S 5/24/2000 MW-112S Primary	MW-112S 6/8/2001 MW-112S Primary	MW-112S 6/8/2001 DUP-1 Duplicate	MW-112S 1/15/2002 MW-112S (42') Primary	MW-112S 1/15/2002 MW-112S (45') Primary	MW-112S 1/15/2002 DUP-1 Duplicate	MW-112S 1/15/2002 MW-112S (48') Primary	MW-112S 1/15/2002 MW-112S Primary	MW-112S 4/16/2003 MW-112S Primary	MW-112S 9/7/2004 MW-112S Primary	MW-113D 12/22/1999 MW-113D Primary	MW-113D 5/23/2000 MW-113D Primary
Petroleum Hydrocarbons															
TPH	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Water Quality Parameters															
Alkalinity (as CaCO3)	mg/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Bicarbonate (as CaCO3)	mg/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chloride	mg/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dissolved oxygen	mg/l	2.39	---	---	---	---	---	---	---	---	---	---	---	---	---
eH	mv	164.8	---	---	---	---	---	---	---	---	---	---	---	---	---
Ferric iron	mg/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ferrous iron	mg/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Methane	mg/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Nitrate (as N)	mg/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
pH		7.76	---	---	---	---	---	---	---	---	---	---	---	---	---
Residue, filterable	mg/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Specific conductivity	umhos/cm	288	---	---	---	---	---	---	---	---	---	---	---	---	---
Sulfate	mg/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Sulfide	mg/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Temperature	cent	7.64	---	---	---	---	---	---	---	---	---	---	---	---	---
Total organic carbon	mg/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Turbidity	ntu	347	---	---	---	---	---	---	---	---	---	---	---	---	---

< = not detected at reporting limit
--- = not analyzed
B = estimated (inorganics)
E = estimated
J = estimated
R = rejected
U = revised to non-detected

Table 7
Detected Parameters
Groundwater Samples
Hows Corner Superfund Site
Plymouth, Maine

Parameter	Units	MW-114D 12/21/1999 MW-114D Primary	MW-114D 5/23/2000 MW-114D Primary	MW-114D 5/23/2000 MW-114D DUP Duplicate	MW-114D 6/9/2001 MW-114D Primary	MW-114D 6/9/2001 DUP-2 Duplicate	MW-114D 1/17/2002 MW-114D(125') Primary	MW-114D 1/17/2002 MW-114D(130') Primary	MW-114D 1/17/2002 DUP 4 Duplicate	MW-114D 1/17/2002 MW-114D(135') Primary	MW-114D 1/17/2002 MW-114D(140') Primary	MW-114D 1/17/2002 MW-114D(142.5') Primary	MW-114D 1/17/2002 MW-114D Primary	MW-114D 4/17/2003 MW-114D Primary
Total Volatile Organic Compounds														
Acetone	ug/l	<5.	<5J	<5J	<5J	<5	<5	<15J	<9J	<16J	<17J	<20J	<9J	<5
Benzene	ug/l	<1.	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-Butanone	ug/l	<5.	<5J	<5J	<5	<5	<5	<5	<5J	<5	<5	<5	<5	<5
n-Butylbenzene	ug/l	<1.	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene	ug/l	<1.	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon disulfide	ug/l	<2.	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<1
Carbon tetrachloride	ug/l	<1.	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	ug/l	<1.	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	ug/l	<2.	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Chloroform	ug/l	<1.	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane	ug/l	<2.	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
2-Chlorotoluene	ug/l	<1.	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
4-Chlorotoluene	ug/l	<1.	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dibromochloromethane	ug/l	<1.	<1	<1	<1	<1	3	<1	0.6J	4	4	3	7	<1
1,2-Dichlorobenzene	ug/l	<1.	<1	<1	<1	<1	0.6J	0.6J	<1	0.6J	0.7J	<1	<1	<1
1,3-Dichlorobenzene	ug/l	<1.	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	ug/l	<1.	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	ug/l	1	1	1	<1	<1	1	1	1	1	1	1	1	0.8J
1,1-Dichloroethene	ug/l	21	18	18	22	20	22	24	19	26	26	25	22	17
1,2-Dichloroethene	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---
cis-1,2-Dichloroethene	ug/l	16	19	19	17	17	14	17	17	18	18	17	16	18
trans-1,2-Dichloroethene	ug/l	<1.	<1	<1	<1	<1	<1	0.6J	<1	<1	<1	0.7J	<1	<1
Diethyl ether	ug/l	<2.	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<1J
Ethylbenzene	ug/l	<1.	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Hexachlorobutadiene	ug/l	<1.	<1	<1	4	<1	<1J	<1J	<1	<1J	<1J	<1J	<1J	<1
Isopropylbenzene	ug/l	<1.	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
p-Isopropyltoluene	ug/l	<1.	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methylene chloride	ug/l	<2.	<1J	<1J	<1J	<1	<1J	<1J	<1	<1J	<1J	<1J	<1J	<2U
MTBE	ug/l	<1.	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Naphthalene	ug/l	<1.	<1	<1	8J	<1	<1J	<1J	<1	<1J	<1J	<1J	<1J	<1J
n-Propylbenzene	ug/l	<1.	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1,2-Tetrachloroethane	ug/l	0.6J	0.8J	0.9J	<1	0.9J	<1	1J	1	1	1	1	0.9J	0.8J
Tetrachloroethene	ug/l	4600	7300	9900J	10000	9200	5300	5600	4800	6000	5900	5800	3600	3900J
Tetrahydrofuran	ug/l	<10.J	<10	<10	<10	<10	<10	<10	5J	<10	<10	<10	<10	<10
Toluene	ug/l	<1.	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichlorobenzene	ug/l	<1.	1	0.9J	11J	<1	<1J	<1J	<1	<1J	<1J	<1J	<1J	<1J
1,2,4-Trichlorobenzene	ug/l	<1.	0.7J	0.6J	5	<1	<1J	0.6J	<1	0.7J	0.6J	0.5J	0.5J	<1
1,3,5-Trichlorobenzene	ug/l	<1.	<1	<1	<1	<1	<1J	<1J	<1	<1J	<1J	<1J	<1J	<1
1,1,1-Trichloroethane	ug/l	160	270J	430J	530	450	210	230	210	250	240	240	200	180
1,1,2-Trichloroethane	ug/l	0.6J	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	ug/l	100	140J	140	130	130	130	160	150	160	160	160	130	130
Trichlorofluoromethane	ug/l	<2.	<2	<2J	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
1,2,4-Trimethylbenzene	ug/l	<1.	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene	ug/l	<1.	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl chloride	ug/l	<2.	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
o-Xylene	ug/l	<1.	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
m+p-Xylenes	ug/l	<1.	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1

Table 7
Detected Parameters
Groundwater Samples
Hows Corner Superfund Site
Plymouth, Maine

Parameter	Units	MW-114D 12/21/1999 MW-114D Primary	MW-114D 5/23/2000 MW-114D Primary	MW-114D 5/23/2000 MW-114D DUP Duplicate	MW-114D 6/9/2001 MW-114D Primary	MW-114D 6/9/2001 DUP-2 Duplicate	MW-114D 1/17/2002 MW-114D(125') Primary	MW-114D 1/17/2002 MW-114D(130') Primary	MW-114D 1/17/2002 DUP 4 Duplicate	MW-114D 1/17/2002 MW-114D(135') Primary	MW-114D 1/17/2002 MW-114D(140') Primary	MW-114D 1/17/2002 MW-114D(142.5') Primary	MW-114D 1/17/2002 MW-114D Primary	MW-114D 4/17/2003 MW-114D Primary
Dissolved Volatile Organic Compounds														
Tetrachloroethylene	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---
Semi-Volatile Organic Compounds														
bis(2-Ethylhexyl)phthalate	ug/l	<10	<10	<10	---	---	---	---	---	---	---	---	---	---
Phenol	ug/l	<18	<10	<10	---	---	---	---	---	---	---	---	---	---
PCBs														
Aroclor 1260	ug/l	<0.10	---	---	---	---	---	---	---	---	---	---	---	---
Dichlorobiphenyl	ng/l	---	<0.50	<0.50	---	---	---	---	---	---	---	---	---	---
Heptachlorobiphenyl	ng/l	---	<0.50	<0.50	---	---	---	---	---	---	---	---	---	---
Hexachlorobiphenyl	ng/l	---	<0.50	<0.50	---	---	---	---	---	---	---	---	---	---
Nonachlorobiphenyl	ng/l	---	<0.50	<0.50	---	---	---	---	---	---	---	---	---	---
Octachlorobiphenyl	ng/l	---	<0.50	<0.50	---	---	---	---	---	---	---	---	---	---
Pentachlorobiphenyl	ng/l	---	<0.50	<0.50	---	---	---	---	---	---	---	---	---	---
Tetrachlorobiphenyl	ng/l	---	<0.50	<0.50	---	---	---	---	---	---	---	---	---	---
Trichlorobiphenyl	ng/l	---	<0.50	<0.50	---	---	---	---	---	---	---	---	---	---
Pesticides														
Dieldrin	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	<0.1
Total Inorganics														
Aluminum	ug/l	<100	<100	<100	---	---	---	---	---	---	---	---	---	---
Antimony	ug/l	<8.0	<8.0	<8.0	---	---	---	---	---	---	---	---	---	---
Arsenic	ug/l	<8.0	<8.0	<8.0	---	---	---	---	---	---	---	---	---	<1.80J
Barium	ug/l	3.3	<5.0	<5.0	---	---	---	---	---	---	---	---	---	---
Beryllium	ug/l	<5.0	<5.0	<5.0	---	---	---	---	---	---	---	---	---	---
Cadmium	ug/l	<10	3.2B	<10	---	---	---	---	---	---	---	---	---	---
Calcium	ug/l	23900	24800	24700	---	---	---	---	---	---	---	---	---	---
Chromium	ug/l	<15	<15	<15	---	---	---	---	---	---	---	---	---	---
Cobalt	ug/l	<30	<30	<30	---	---	---	---	---	---	---	---	---	---
Copper	ug/l	1.4	<25	<25	---	---	---	---	---	---	---	---	---	---
Iron	ug/l	<50	<50	<50	---	---	---	---	---	---	---	---	---	---
Lead	ug/l	<5.0	<5.0	<5.0	---	---	---	---	---	---	---	---	---	---
Magnesium	ug/l	14400	16100	15900	---	---	---	---	---	---	---	---	---	---
Manganese	ug/l	2	<5.0	<5.0	---	---	---	---	---	---	---	---	---	<0.15
Mercury	ug/l	<0.20	<0.20	<0.20	---	---	---	---	---	---	---	---	---	---
Nickel	ug/l	<40	<40	<40	---	---	---	---	---	---	---	---	---	---
Potassium	ug/l	<1000	339B	<1000	---	---	---	---	---	---	---	---	---	---
Selenium	ug/l	<10	<10	<10	---	---	---	---	---	---	---	---	---	---
Silver	ug/l	<15	<15	<15	---	---	---	---	---	---	---	---	---	---
Sodium	ug/l	3010	3080	2990	---	---	---	---	---	---	---	---	---	---
Thallium	ug/l	<15	<15	<15	---	---	---	---	---	---	---	---	---	---
Vanadium	ug/l	<25	<25	<25	---	---	---	---	---	---	---	---	---	---
Zinc	ug/l	<25	3.4B	4.1B	---	---	---	---	---	---	---	---	---	---
Dissolved Inorganics														
Aluminum	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---
Arsenic	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---
Calcium	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---
Chromium	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---
Lead	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---
Magnesium	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---
Manganese	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---
Mercury	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---
Sodium	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---

Table 7
Detected Parameters
Groundwater Samples
Hows Corner Superfund Site
Plymouth, Maine

Parameter	Units	MW-114D 12/21/1999 MW-114D Primary	MW-114D 5/23/2000 MW-114D Primary	MW-114D 5/23/2000 MW-114D DUP Duplicate	MW-114D 6/9/2001 MW-114D Primary	MW-114D 6/9/2001 DUP-2 Duplicate	MW-114D 1/17/2002 MW-114D(125') Primary	MW-114D 1/17/2002 MW-114D(130') Primary	MW-114D 1/17/2002 DUP 4 Duplicate	MW-114D 1/17/2002 MW-114D(135') Primary	MW-114D 1/17/2002 MW-114D(140') Primary	MW-114D 1/17/2002 MW-114D(142.5') Primary	MW-114D 1/17/2002 MW-114D Primary	MW-114D 4/17/2003 MW-114D Primary
Petroleum Hydrocarbons														
TPH	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---
Water Quality Parameters														
Alkalinity (as CaCO3)	mg/l	130	---	---	---	---	---	---	---	---	---	---	---	---
Bicarbonate (as CaCO3)	mg/l	---	---	---	---	---	---	---	---	---	---	---	---	---
Chloride	mg/l	3.9	---	---	---	---	---	---	---	---	---	---	---	---
Dissolved oxygen	mg/l	0.45	---	---	---	---	---	---	---	---	---	---	---	---
eH	mv	126.8	---	---	---	---	---	---	---	---	---	---	---	---
Ferric iron	mg/l	<0.1	---	---	---	---	---	---	---	---	---	---	---	---
Ferrous iron	mg/l	<0.10	---	---	---	---	---	---	---	---	---	---	---	---
Methane	mg/l	<0.010	---	---	---	---	---	---	---	---	---	---	---	---
Nitrate (as N)	mg/l	0.18	---	---	---	---	---	---	---	---	---	---	---	---
pH		7.96	---	---	---	---	---	---	---	---	---	---	---	---
Residue, filterable	mg/l	---	---	---	---	---	---	---	---	---	---	---	---	---
Specific conductivity	umhos/cm	239	---	---	---	---	---	---	---	---	---	---	---	---
Sulfate	mg/l	5.8	---	---	---	---	---	---	---	---	---	---	---	---
Sulfide	mg/l	5.6	---	---	---	---	---	---	---	---	---	---	---	---
Temperature	cent	8.23	---	---	---	---	---	---	---	---	---	---	---	---
Total organic carbon	mg/l	2.3	---	---	---	---	---	---	---	---	---	---	---	---
Turbidity	ntu	1.16	---	---	---	---	---	---	---	---	---	---	---	---

< = not detected at reporting limit
--- = not analyzed
B = estimated (inorganics)
E = estimated
J = estimated
R = rejected
U = revised to non-detected

Table 7
Detected Parameters
Groundwater Samples
Hows Corner Superfund Site
Plymouth, Maine

Parameter	Units	MW-114D 9/8/2004 MW-114D Primary	MW-114S 1/5/2000 MW-114S Primary	MW-114S 1/5/2000 MW-114S Primary	MW-114S 1/5/2000 MW-114S DUP Duplicate	MW-114S 5/25/2000 MW-114S Primary	MW-114S 6/9/2001 MW-114S Primary	MW-114S 1/17/2002 MW-114S(47.5') Primary	MW-114S 1/17/2002 MW-114S(50') Primary	MW-114S 1/17/2002 MW-114S(52.5') Primary	MW-114S 1/17/2002 MW-114S Primary	MW-114S 4/17/2003 MW-114S Primary	MW-114S 9/8/2004 MW-114S Primary	MW-115D 12/21/1999 MW-115D Primary	MW-115D 12/21/1999 MW-115D Primary
Total Volatile Organic Compounds															
Acetone	ug/l	5	---	<5J	---	<5	<5	<15J	<16J	<5J	<5J	<5	2J	---	<5J
Benzene	ug/l	0.1J	---	<1	---	<1	<1	<1	<1	<1	<1	<1	<1	---	<1
2-Butanone	ug/l	<5	---	<5	---	<5	<5	<5	<5J	<5J	<5	<5	<5	---	<5
n-Butylbenzene	ug/l	<1	---	<1	---	<1	<1	<1	<1	<1	<1	<1	<1	---	<1
sec-Butylbenzene	ug/l	<1	---	<1	---	<1	<1	<1	<1	<1	<1	<1	<1	---	<1
Carbon disulfide	ug/l	<1	---	<2.0	---	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<1	<1	---	<2.0
Carbon tetrachloride	ug/l	<1	---	<1	---	<1	<1J	<1	<1	<1	<1	<1	<1	---	<1
Chlorobenzene	ug/l	0.2J	---	<1	---	<1	<1	<1	<1	<1	<1	<1	<1	---	<1
Chloroethane	ug/l	<2	---	<2	---	<2	<2	<2	<2	<2	<2	<2	<2	---	<2
Chloroform	ug/l	0.2J	---	<1	---	<1	<1	<1	<1	<1	<1	<1	<1	---	<1
Chloromethane	ug/l	<2	---	<2	---	<2	<2	<2	<2	<2J	<2	<2	<2	---	<2
2-Chlorotoluene	ug/l	<1	---	<1	---	<1	<1	<1	<1	<1	<1	<1	<1	---	<1
4-Chlorotoluene	ug/l	<1	---	<1	---	<1	<1	<1	<1	<1	<1	<1	<1	---	<1
Dibromochloromethane	ug/l	<1	---	<1	---	<1	<1	<1	6	<1	3	<1	<1	---	<1
1,2-Dichlorobenzene	ug/l	0.3J	---	<1	---	<1	<1	<1	<1	<1	<1	<1	<1	---	<1
1,3-Dichlorobenzene	ug/l	<1	---	<1	---	<1	<1	<1	<1	<1	<1	<1	<1	---	<1
1,4-Dichlorobenzene	ug/l	<1	---	<1	---	<1	<1	<1	<1	<1	<1	<1	<1	---	<1
1,1-Dichloroethane	ug/l	0.9J	---	0.7J	---	0.6J	<1	0.6J	0.6J	0.5J	0.7J	<1	<1	---	<1
1,1-Dichloroethene	ug/l	17	---	9	---	8	9	8	9	7	10	5	4	---	<1
1,2-Dichloroethene	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
cis-1,2-Dichloroethene	ug/l	25	---	5	---	6	6	6	6	5	7	5	6	---	<1
trans-1,2-Dichloroethene	ug/l	0.3J	---	<1	---	<1	<1	<1	<1	<1	<1	<1	0.2J	---	<1
Diethyl ether	ug/l	<1	---	<2	---	<2	<2	<2	<2	<2	<2J	<1J	<1	---	<2
Ethylbenzene	ug/l	<1	---	<1	---	<1	<1	<1	<1	<1	<1	1J	<1	---	<1
Hexachlorobutadiene	ug/l	<1	---	<1	---	<1J	<1	<1J	<1J	<1	<1J	<1	<1J	---	<1
Isopropylbenzene	ug/l	<1	---	<1	---	<1	<1	<1	<1	<1	<1	<1	<1	---	<1
p-Isopropyltoluene	ug/l	<1	---	<1	---	<1	<1	<1	<1	<1	<1	<1	<1	---	<1
Methylene chloride	ug/l	<1	---	<3	---	<1J	<1	<1J	<1J	<1J	<1J	<2U	<1	---	<1
MTBE	ug/l	0.3J	---	<1	---	<1	<1	<1	<1	<1	0.5J	<1	0.5J	---	<1
Naphthalene	ug/l	<1	---	<1	---	<1	<1J	<1J	<1J	<1	<1J	2J	<1J	---	<1
n-Propylbenzene	ug/l	<1	---	<1	---	<1	<1	<1	<1	<1	<1	<1	<1	---	<1
1,1,1,2-Tetrachloroethane	ug/l	0.5J	---	<1	---	<1	<1	<1	0.5J	<1	<1	<1	0.2J	---	<1
Tetrachloroethene	ug/l	3500	---	1800J	---	2600	5200	2300	2400	2000	2000	1500J	1500	---	3
Tetrahydrofuran	ug/l	<10	---	<10J	---	<10	<10	<10	<10	<10	<10	<10	<10	---	<10J
Toluene	ug/l	<1	---	<1	---	<1	<1	<1	<1	<1	<1	<10U	<1	---	0.6J
1,2,3-Trichlorobenzene	ug/l	0.3J	---	<1	---	<1	<1J	<1J	<1J	<1	<1J	<1J	<1	---	<1
1,2,4-Trichlorobenzene	ug/l	<1	---	<1	---	<1	<1	<1J	<1J	<1	<1	<1	<1J	---	<1
1,3,5-Trichlorobenzene	ug/l	<1	---	<1	---	<1	<1	<1J	<1J	<1	<1	7J	<1	---	<1
1,1,1-Trichloroethane	ug/l	140	---	86	---	100	120J	99	100J	86	110	59	40	---	<1
1,1,2-Trichloroethane	ug/l	<1	---	<1	---	<1	<1	<1	<1	<1	<1	<1	<1	---	<1
Trichloroethene	ug/l	140	---	56	---	75	78	77	75J	68	76	60	52	---	<1
Trichlorofluoromethane	ug/l	<2	---	<2	---	<2	<2	<2	<2	<2	<2	<2	<2	---	<2
1,2,4-Trimethylbenzene	ug/l	<1	---	<1	---	<1	<1	<1	<1	<1	<1	<1	<1	---	<1
1,3,5-Trimethylbenzene	ug/l	<1	---	<1	---	<1	<1	<1	<1	<1	<1	<1	<1	---	<1
Vinyl chloride	ug/l	<2	---	<2	---	<2	<2	<2	<2	<2	<2	<2	<2	---	<2
o-Xylene	ug/l	<1	---	<1	---	<1	<1	<1	<1	<1	<1	<1	<1	---	<1
m+p-Xylenes	ug/l	<2	---	<1	---	<1	<1	<1	<1	<1	<1	3J	<2	---	<1

Table 7
Detected Parameters
Groundwater Samples
Hows Corner Superfund Site
Plymouth, Maine

Parameter	Units	MW-114D 9/8/2004 MW-114D Primary	MW-114S 1/5/2000 MW-114S Primary	MW-114S 1/5/2000 MW-114S Primary	MW-114S 1/5/2000 MW-114S DUP Duplicate	MW-114S 5/25/2000 MW-114S Primary	MW-114S 6/9/2001 MW-114S Primary	MW-114S 1/17/2002 MW-114S(47.5') Primary	MW-114S 1/17/2002 MW-114S(50') Primary	MW-114S 1/17/2002 MW-114S(52.5') Primary	MW-114S 1/17/2002 MW-114S Primary	MW-114S 4/17/2003 MW-114S Primary	MW-114S 9/8/2004 MW-114S Primary	MW-115D 12/21/1999 MW-115D Primary	MW-115D 12/21/1999 MW-115D Primary
Dissolved Volatile Organic Compounds															
Tetrachloroethylene	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Semi-Volatile Organic Compounds															
bis(2-Ethylhexyl)phthalate	ug/l	---	---	<10	---	<10J	---	---	---	---	---	---	---	---	14
Phenol	ug/l	---	---	<10	---	<10	---	---	---	---	---	---	---	---	<12
PCBs															
Aroclor 1260	ug/l	---	---	<0.1	---	---	---	---	---	---	---	---	---	---	<0.10
Dichlorobiphenyl	ng/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Heptachlorobiphenyl	ng/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Hexachlorobiphenyl	ng/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Nonachlorobiphenyl	ng/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Octachlorobiphenyl	ng/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Pentachlorobiphenyl	ng/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Tetrachlorobiphenyl	ng/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Trichlorobiphenyl	ng/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Pesticides															
Dieldrin	ug/l	---	---	---	---	---	---	---	---	---	---	<0.11	---	---	---
Total Inorganics															
Aluminum	ug/l	---	---	<100	---	<100	---	---	---	---	---	---	---	---	<100
Antimony	ug/l	---	---	<8.0	---	<8.0	---	---	---	---	---	---	---	---	<8.0
Arsenic	ug/l	---	---	<8.0	---	<8.0	---	---	---	---	---	<1.80J	---	---	<8.0
Barium	ug/l	---	---	<5.0	---	<5.0	---	---	---	---	---	---	---	---	46.5
Beryllium	ug/l	---	---	<5.0	---	<5.0	---	---	---	---	---	---	---	---	<5.0
Cadmium	ug/l	---	---	<10	---	<10	---	---	---	---	---	---	---	---	<10
Calcium	ug/l	---	---	30200	---	29400	---	---	---	---	---	---	---	---	32500
Chromium	ug/l	---	---	<15	---	<15	---	---	---	---	---	---	---	---	0.97
Cobalt	ug/l	---	---	<30	---	<30	---	---	---	---	---	---	---	---	<30
Copper	ug/l	---	---	<25	---	<25	---	---	---	---	---	---	---	---	3.7
Iron	ug/l	---	---	<50	---	74.9	---	---	---	---	---	---	---	---	<50
Lead	ug/l	---	---	<5.0	---	<5.0	---	---	---	---	---	---	---	---	<5.0
Magnesium	ug/l	---	---	10400	---	11200	---	---	---	---	---	---	---	---	10400
Manganese	ug/l	---	---	7	---	1.5B	---	---	---	---	---	<0.15U	---	---	52.2
Mercury	ug/l	---	---	0.04	---	0.03B	---	---	---	---	---	---	---	---	<0.20
Nickel	ug/l	---	---	<40	---	<40	---	---	---	---	---	---	---	---	<40
Potassium	ug/l	---	---	<1000	---	<1000	---	---	---	---	---	---	---	---	<1000
Selenium	ug/l	---	---	<10	---	<10	---	---	---	---	---	---	---	---	<10
Silver	ug/l	---	---	<15	---	<15	---	---	---	---	---	---	---	---	<15
Sodium	ug/l	---	---	3110	---	2710	---	---	---	---	---	---	---	---	4340
Thallium	ug/l	---	---	<15	---	<15	---	---	---	---	---	---	---	---	<15
Vanadium	ug/l	---	---	<25	---	<25	---	---	---	---	---	---	---	---	<25
Zinc	ug/l	---	---	<25	---	<25	---	---	---	---	---	---	---	---	68.7
Dissolved Inorganics															
Aluminum	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Arsenic	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Calcium	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chromium	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Lead	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Magnesium	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Manganese	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Mercury	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Sodium	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Table 7
Detected Parameters
Groundwater Samples
Hows Corner Superfund Site
Plymouth, Maine

Parameter	Units	MW-114D 9/8/2004 MW-114D Primary	MW-114S 1/5/2000 MW-114S Primary	MW-114S 1/5/2000 MW-114S Primary	MW-114S 1/5/2000 MW-114S DUP Duplicate	MW-114S 5/25/2000 MW-114S Primary	MW-114S 6/9/2001 MW-114S Primary	MW-114S 1/17/2002 MW-114S(47.5') Primary	MW-114S 1/17/2002 MW-114S(50') Primary	MW-114S 1/17/2002 MW-114S(52.5') Primary	MW-114S 1/17/2002 MW-114S Primary	MW-114S 4/17/2003 MW-114S Primary	MW-114S 9/8/2004 MW-114S Primary	MW-115D 12/21/1999 MW-115D Primary	MW-115D 12/21/1999 MW-115D Primary
Petroleum Hydrocarbons															
TPH	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Water Quality Parameters															
Alkalinity (as CaCO3)	mg/l	---	---	120	---	---	---	---	---	---	---	---	---	---	130
Bicarbonate (as CaCO3)	mg/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chloride	mg/l	---	---	5.2	---	---	---	---	---	---	---	---	---	---	<2.0
Dissolved oxygen	mg/l	---	0.06	---	---	---	---	---	---	---	---	---	---	4.83	---
eH	mv	---	121.3	---	---	---	---	---	---	---	---	---	---	125.3	---
Ferric iron	mg/l	---	---	<0.1	---	---	---	---	---	---	---	---	---	---	0.13
Ferrous iron	mg/l	---	---	<0.10	---	---	---	---	---	---	---	---	---	---	<0.10
Methane	mg/l	---	---	<0.010	<0.010	---	---	---	---	---	---	---	---	---	<0.010
Nitrate (as N)	mg/l	---	---	0.31	---	---	---	---	---	---	---	---	---	---	<0.050
pH		---	7.75	---	---	---	---	---	---	---	---	---	---	7.06	---
Residue, filterable	mg/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Specific conductivity	umhos/cm	---	213	---	---	---	---	---	---	---	---	---	---	236	---
Sulfate	mg/l	---	---	5.8	---	---	---	---	---	---	---	---	---	---	17
Sulfide	mg/l	---	---	<4.0	---	---	---	---	---	---	---	---	---	---	<4.0
Temperature	cent	---	6.65	---	---	---	---	---	---	---	---	---	---	7.03	---
Total organic carbon	mg/l	---	---	<1.0	---	---	---	---	---	---	---	---	---	---	1.5
Turbidity	ntu	---	3.55	---	---	---	---	---	---	---	---	---	---	19.4	---

< = not detected at reporting limit
--- = not analyzed
B = estimated (inorganics)
E = estimated
J = estimated
R = rejected
U = revised to non-detected

Table 7
Detected Parameters
Groundwater Samples
Hows Corner Superfund Site
Plymouth, Maine

Parameter	Units	MW-115D 5/24/2000 MW-115D Primary	MW-115D 6/9/2001 MW-115D Primary	MW-115D 1/17/2002 MW-115D(142') Primary	MW-115D 1/17/2002 MW-115D(145') Primary	MW-115D 1/17/2002 MW-115D(148') Primary	MW-115D 1/17/2002 MW-115D Primary	MW-115D 4/15/2003 MW-115D Primary	MW-115D 9/7/2004 MW-115D Primary	MW-203D 9/8/2004 MW-203D Primary	MW-203S 9/8/2004 MW-203S Primary	MW-204D 9/8/2004 MW-204D Primary	MW-204S 9/8/2004 MW-204S Primary	MW-205 9/8/2004 MW-205 Primary	MW-205 9/8/2004 MW-205DUP Duplicate
Total Volatile Organic Compounds															
Acetone	ug/l	<5	<5	<15J	<5J	<13J	<7J	<5	2J	<5	2J	2J	<5	4J	7
Benzene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-Butanone	ug/l	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
n-Butylbenzene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon disulfide	ug/l	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<1	0.3J	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	ug/l	<1	<1J	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1	0.3J	<1	<1	<1	0.1J	0.1J
Chloroethane	ug/l	<2	<2	<2	<2	2	1J	<2	<2	<2	<2	<2	<2	<2	<2
Chloroform	ug/l	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	0.1J
Chloromethane	ug/l	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
2-Chlorotoluene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
4-Chlorotoluene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dibromochloromethane	ug/l	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	ug/l	0.6J	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1	0.3J	<1	<1	<1	<1	<1
1,1-Dichloroethane	ug/l	<1	<1	<1	<1	<1	<1	<1	<1	3	<1	<1	1	<1	<1
1,1-Dichloroethene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1	6	<1	0.3J	0.5J	2	2
1,2-Dichloroethene	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
cis-1,2-Dichloroethene	ug/l	<1	<1	1J	2	2	<1	<1	<1	34	16	20	44	14	14
trans-1,2-Dichloroethene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1	0.3J	<1	<1	<1	<1	0.2J
Diethyl ether	ug/l	<2	<2	<2	<2	<2	<2	<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Hexachlorobutadiene	ug/l	<1	<1	<1J	<1J	<1J	<1J	<1	<1	<1	<1	<1	<1	<1	<1
Isopropylbenzene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
p-Isopropyltoluene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methylene chloride	ug/l	<1J	<1	<1J	<1J	<1J	<1J	<1	<1	<1	<1	<1	<1	<1J	<1J
MTBE	ug/l	<1	<1	<1	<1	<1	<1	<1	<2	<2	<2	<2	<2	<2	<2
Naphthalene	ug/l	<1	<1J	<1J	<1J	<1J	<1J	<1	<1	<1	<1	<1	<1	<1	<1
n-Propylbenzene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1,2-Tetrachloroethane	ug/l	<1	<1	<1	<1	<1	<1	<1	<1	0.2J	<1	<1	<1	<1	<1
Tetrachloroethene	ug/l	<1	<1J	<1	<2J	<2	<1J	<1	<1	2800	270	360	560	1100	1100
Tetrahydrofuran	ug/l	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Toluene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichlorobenzene	ug/l	<1	<1J	<1J	<1J	<1J	<1J	<1J	<1	2	<1	0.4J	0.5J	1	1
1,2,4-Trichlorobenzene	ug/l	<1	<1	<1J	<1J	<1J	<1J	<1	<1	0.5J	<1	<1	<1	<1	<1
1,3,5-Trichlorobenzene	ug/l	<1	<1	<1J	<1J	<1J	<1J	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-Trichloroethane	ug/l	<1	<1J	<1	<1	<1	<1	<1	<1	95	7	10	19	30	35
1,1,2-Trichloroethane	ug/l	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1	220	31	43	110	64	75
Trichlorofluoromethane	ug/l	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
1,2,4-Trimethylbenzene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl chloride	ug/l	<2	<2	<2	<2	<2	<2	<2	0.3J	<2	<2	<2	<2	<2	<2
o-Xylene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
m+p-Xylenes	ug/l	<1	<1	<1	<1	<1	<1	<1	<2	<2	<2	<2	<2	<2	<2

Table 7
Detected Parameters
Groundwater Samples
Hows Corner Superfund Site
Plymouth, Maine

Parameter	Units	MW-115D 5/24/2000 MW-115D Primary	MW-115D 6/9/2001 MW-115D Primary	MW-115D 1/17/2002 MW-115D(142') Primary	MW-115D 1/17/2002 MW-115D(145') Primary	MW-115D 1/17/2002 MW-115D(148') Primary	MW-115D 1/17/2002 MW-115D Primary	MW-115D 4/15/2003 MW-115D Primary	MW-115D 9/7/2004 MW-115D Primary	MW-203D 9/8/2004 MW-203D Primary	MW-203S 9/8/2004 MW-203S Primary	MW-204D 9/8/2004 MW-204D Primary	MW-204S 9/8/2004 MW-204S Primary	MW-205 9/8/2004 MW-205 Primary	MW-205 9/8/2004 MW-205DUP Duplicate
Dissolved Volatile Organic Compounds															
Tetrachloroethylene	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Semi-Volatile Organic Compounds															
bis(2-Ethylhexyl)phthalate	ug/l	<10	---	---	---	---	---	---	---	---	---	---	---	---	---
Phenol	ug/l	<10	---	---	---	---	---	---	---	---	---	---	---	---	---
PCBs															
Aroclor 1260	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dichlorobiphenyl	ng/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Heptachlorobiphenyl	ng/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Hexachlorobiphenyl	ng/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Nonachlorobiphenyl	ng/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Octachlorobiphenyl	ng/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Pentachlorobiphenyl	ng/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Tetrachlorobiphenyl	ng/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Trichlorobiphenyl	ng/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Pesticides															
Dieldrin	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Total Inorganics															
Aluminum	ug/l	223	---	---	---	---	---	---	---	---	---	---	---	---	---
Antimony	ug/l	<8.0	---	---	---	---	---	---	---	---	---	---	---	---	---
Arsenic	ug/l	2.6B	---	---	---	---	---	<1.80J	---	---	---	---	---	---	---
Barium	ug/l	24.6J	---	---	---	---	---	---	---	---	---	---	---	---	---
Beryllium	ug/l	<5.0	---	---	---	---	---	---	---	---	---	---	---	---	---
Cadmium	ug/l	<10	---	---	---	---	---	---	---	---	---	---	---	---	---
Calcium	ug/l	32600	---	---	---	---	---	---	---	---	---	---	---	---	---
Chromium	ug/l	4.1B	---	---	---	---	---	---	---	---	---	---	---	---	---
Cobalt	ug/l	<30	---	---	---	---	---	---	---	---	---	---	---	---	---
Copper	ug/l	<25	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron	ug/l	407	---	---	---	---	---	---	---	---	---	---	---	---	---
Lead	ug/l	<5.0	---	---	---	---	---	---	---	---	---	---	---	---	---
Magnesium	ug/l	6400	---	---	---	---	---	---	---	---	---	---	---	---	---
Manganese	ug/l	78.5	---	---	---	---	---	96.7	---	---	---	---	---	---	---
Mercury	ug/l	<0.20	---	---	---	---	---	---	---	---	---	---	---	---	---
Nickel	ug/l	<40	---	---	---	---	---	---	---	---	---	---	---	---	---
Potassium	ug/l	3270	---	---	---	---	---	---	---	---	---	---	---	---	---
Selenium	ug/l	<10	---	---	---	---	---	---	---	---	---	---	---	---	---
Silver	ug/l	<15	---	---	---	---	---	---	---	---	---	---	---	---	---
Sodium	ug/l	3230	---	---	---	---	---	---	---	---	---	---	---	---	---
Thallium	ug/l	<15	---	---	---	---	---	---	---	---	---	---	---	---	---
Vanadium	ug/l	<25	---	---	---	---	---	---	---	---	---	---	---	---	---
Zinc	ug/l	1030	---	---	---	---	---	---	---	---	---	---	---	---	---
Dissolved Inorganics															
Aluminum	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Arsenic	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Calcium	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chromium	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Lead	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Magnesium	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Manganese	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Mercury	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Sodium	ug/l	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Table 7
Detected Parameters
Groundwater Samples
Hows Corner Superfund Site
Plymouth, Maine

Parameter	Units	MW-115D 5/24/2000 MW-115D Primary	MW-115D 6/9/2001 MW-115D Primary	MW-115D 1/17/2002 MW-115D(142') Primary	MW-115D 1/17/2002 MW-115D(145') Primary	MW-115D 1/17/2002 MW-115D(148') Primary	MW-115D 1/17/2002 MW-115D Primary	MW-115D 4/15/2003 MW-115D Primary	MW-115D 9/7/2004 MW-115D Primary	MW-203D 9/8/2004 MW-203D Primary	MW-203S 9/8/2004 MW-203S Primary	MW-204D 9/8/2004 MW-204D Primary	MW-204S 9/8/2004 MW-204S Primary	MW-205 9/8/2004 MW-205 Primary	MW-205 9/8/2004 MW-205DUP Duplicate
Petroleum Hydrocarbons															
TPH	ug/l	---	---	—	---	—	---	—	---	---	---	—	—	---	—
Water Quality Parameters															
Alkalinity (as CaCO3)	mg/l	---	---	---	---	---	---	---	---	—	—	---	---	---	---
Bicarbonate (as CaCO3)	mg/l	---	---	---	---	---	---	---	---	—	—	---	---	---	---
Chloride	mg/l	---	---	---	---	---	---	—	---	—	—	---	---	---	---
Dissolved oxygen	mg/l	---	---	---	---	---	---	—	---	---	---	---	---	---	---
eH	mv	---	---	---	---	---	---	—	---	---	—	---	---	---	---
Ferric iron	mg/l	---	—	---	---	---	---	—	---	---	—	---	---	---	---
Ferrous iron	mg/l	---	---	---	---	---	---	---	---	—	—	---	—	---	---
Methane	mg/l	—	—	—	—	---	---	---	—	—	---	—	—	---	---
Nitrate (as N)	mg/l	—	—	—	—	—	---	---	---	—	---	—	---	---	---
pH		---	—	—	---	—	---	---	---	—	---	—	---	---	---
Residue, filterable	mg/l	---	—	—	---	—	—	—	—	—	---	—	—	—	---
Specific conductivity	umhos/cm	---	—	---	—	—	---	—	—	---	---	—	—	—	---
Sulfate	mg/l	---	—	—	---	—	---	---	---	—	---	—	—	—	---
Sulfide	mg/l	---	—	—	---	---	---	—	---	—	---	—	---	---	---
Temperature	cent	---	—	—	---	—	---	—	---	—	---	—	---	---	---
Total organic carbon	mg/l	—	—	—	---	—	---	—	---	—	—	---	---	---	---
Turbidity	ntu	—	—	—	—	---	---	---	---	---	—	---	---	---	—

< = not detected at reporting limit
— = not analyzed
B = estimated (inorganics)
E = estimated
J = estimated
R = rejected
U = revised to non-detected

Table 7
Detected Parameters
Groundwater Samples
Hows Corner Superfund Site
Plymouth, Maine

Parameter	Units	MW-206D 9/8/2004 MW-206D Primary	MW-206S 9/8/2004 MW-206S Primary	PW-207 9/9/2004 PW-207 Primary	PW-207 9/20/2004 PUMP 1 Primary	PW-207 9/22/2004 PUMP 2 Primary	PW-207 9/22/2004 PUMP 2 DUP Duplicate	PW-207 9/23/2004 PUMP 3 Primary
Total Volatile Organic Compounds								
Acetone	ug/l	3J	2J	3J	<25	<25	<1200	<25
Benzene	ug/l	<1	<1	0.1J	<5	<5	<250	<5
2-Butanone	ug/l	<5	<5	<5	<25	<25	<1200	<25
n-Butylbenzene	ug/l	<1	<1	<1	<5	<5	<250	<5
sec-Butylbenzene	ug/l	<1	<1	<1	<5	<5	<250	<5
Carbon disulfide	ug/l	<1	<1	<1	<5	<5	<250	<5
Carbon tetrachloride	ug/l	<1	<1	<1	<5	<5	<250	<5
Chlorobenzene	ug/l	0.5J	<1	2	<5	<5	<250	<5
Chloroethane	ug/l	<2	<2	<2	<10	<10	<500	<10
Chloroform	ug/l	0.1J	<1	0.2J	<5	<5	<250	<5
Chloromethane	ug/l	<2	<2	<2	<10	<10	<500	<10
2-Chlorotoluene	ug/l	<1	<1	<1	<5	<5	<250	<5
4-Chlorotoluene	ug/l	<1	<1	<1	<5	<5	<250	<5
Dibromochloromethane	ug/l	<1	<1	<1	<5	<5	<250	<5
1,2-Dichlorobenzene	ug/l	<1	<1	2	<5	<5	<10	<5
1,3-Dichlorobenzene	ug/l	<1	<1	0.4J	<5	<5	<10	<5
1,4-Dichlorobenzene	ug/l	0.3J	<1	2	<5	<5	<10	<5
1,1-Dichloroethane	ug/l	2	<1	3	<5	<5	<250	<5
1,1-Dichloroethene	ug/l	16	1	24	30	25	<250	30
1,2-Dichloroethene	ug/l	---	---	---	86	120	<500	110
cis-1,2-Dichloroethene	ug/l	39	2	110	84	120	<250	110
trans-1,2-Dichloroethene	ug/l	0.5J	<1	2	<5	<5	<250	<5
Diethyl ether	ug/l	<1	<1	<1	<5	<5	<250	<5
Ethylbenzene	ug/l	<1	<1	0.4J	<5	<5	<250	<5
Hexachlorobutadiene	ug/l	<1	<1	<1J	<5	<5	<10	<5
Isopropylbenzene	ug/l	<1	<1	0.9J	<5	<5	<250	<5
p-Isopropyltoluene	ug/l	<1	<1	<1	<5	<5	<250	<5
Methylene chloride	ug/l	<1J	<1	<1	<5	<5	<250	<5
MTBE	ug/l	<2	<2	<2	<10	<10	<500	<10
Naphthalene	ug/l	<1	<1	1J	<5	<5	<10	<5
n-Propylbenzene	ug/l	<1	<1	<1	<5	<5	<250	<5
1,1,1,2-Tetrachloroethane	ug/l	0.6J	<1	2	<5	<5	<250	<5
Tetrachloroethene	ug/l	5000	410	18000	18000	17000	16000	16000
Tetrahydrofuran	ug/l	<10	<10	<10	<25	<25	<1200	<25
Toluene	ug/l	0.2J	<1	0.3J	<5	<5	<250	<5
1,2,3-Trichlorobenzene	ug/l	3	<1	17J	9	22	<250	11
1,2,4-Trichlorobenzene	ug/l	0.3J	<1	48	26	60	71	66
1,3,5-Trichlorobenzene	ug/l	<1	<1	<1	<5	<5	<250	<5
1,1,1-Trichloroethane	ug/l	190	17	620	670	470	470	430
1,1,2-Trichloroethane	ug/l	<1	<1	<1	<5	<5	<250	<5
Trichloroethene	ug/l	240	17	820	570	880	960	860
Trichlorofluoromethane	ug/l	<2	<2	<2	<10	<10	<500	<10
1,2,4-Trimethylbenzene	ug/l	<1	<1	0.3J	<5	<5	<250	<5
1,3,5-Trimethylbenzene	ug/l	<1	<1	<1	<5	<5	<250	<5
Vinyl chloride	ug/l	<2	<2	<2	<10	<10	<500	<10
o-Xylene	ug/l	<1	<1	0.6J	<5	<5	<250	<5
m+p-Xylenes	ug/l	<2	<2	<2	<10	<10	<500	<10

Table 7
Detected Parameters
Groundwater Samples
Hows Corner Superfund Site
Plymouth, Maine

Parameter	Units	MW-206D 9/8/2004 MW-206D Primary	MW-206S 9/8/2004 MW-206S Primary	PW-207 9/9/2004 PW-207 Primary	PW-207 9/20/2004 PUMP 1 Primary	PW-207 9/22/2004 PUMP 2 Primary	PW-207 9/22/2004 PUMP 2 DUP Duplicate	PW-207 9/23/2004 PUMP 3 Primary
Dissolved Volatile Organic Compounds								
Tetrachloroethylene	ug/l	---	---	---	---	---	---	---
Semi-Volatile Organic Compounds								
bis(2-Ethylhexyl)phthalate	ug/l	---	---	---	<10	<10	<10	<10
Phenol	ug/l	---	---	---	10	<10	<10	<10
PCBs								
Aroclor 1260	ug/l	---	---	---	<0.5	<0.5	<0.5	<0.5
Dichlorobiphenyl	ng/l	---	---	---	---	---	---	---
Heptachlorobiphenyl	ng/l	---	---	---	---	---	---	---
Hexachlorobiphenyl	ng/l	---	---	---	---	---	---	---
Nonachlorobiphenyl	ng/l	---	---	---	---	---	---	---
Octachlorobiphenyl	ng/l	---	---	---	---	---	---	---
Pentachlorobiphenyl	ng/l	---	---	---	---	---	---	---
Tetrachlorobiphenyl	ng/l	---	---	---	---	---	---	---
Trichlorobiphenyl	ng/l	---	---	---	---	---	---	---
Pesticides								
Dieldrin	ug/l	---	---	---	---	---	---	---
Total Inorganics								
Aluminum	ug/l	---	---	---	<300	<300	<300	<300
Antimony	ug/l	---	---	---	---	---	---	---
Arsenic	ug/l	---	---	---	<8	<8	<8	<8
Barium	ug/l	---	---	---	<5.0	<5.0	<5.0	<5.0
Beryllium	ug/l	---	---	---	---	---	---	---
Cadmium	ug/l	---	---	---	---	---	---	---
Calcium	ug/l	---	---	---	36700	32800	33200	32000
Chromium	ug/l	---	---	---	---	---	---	---
Cobalt	ug/l	---	---	---	---	---	---	---
Copper	ug/l	---	---	---	<25	<25	<25	<25
Iron	ug/l	---	---	---	<100	<100	<100	<100
Lead	ug/l	---	---	---	<5	<5	<5	<5
Magnesium	ug/l	---	---	---	8080	8100	8260	8030
Manganese	ug/l	---	---	---	128	120	121	112
Mercury	ug/l	---	---	---	<0.20	<0.20	<0.20	<0.20
Nickel	ug/l	---	---	---	---	---	---	---
Potassium	ug/l	---	---	---	<1000	<1000	<1000	<1000
Selenium	ug/l	---	---	---	---	---	---	---
Silver	ug/l	---	---	---	---	---	---	---
Sodium	ug/l	---	---	---	3400	2900	2990	2990
Thallium	ug/l	---	---	---	---	---	---	---
Vanadium	ug/l	---	---	---	---	---	---	---
Zinc	ug/l	---	---	---	---	---	---	---
Dissolved Inorganics								
Aluminum	ug/l	---	---	---	---	---	---	---
Arsenic	ug/l	---	---	---	---	---	---	---
Calcium	ug/l	---	---	---	---	---	---	---
Chromium	ug/l	---	---	---	---	---	---	---
Iron	ug/l	---	---	---	---	---	---	---
Lead	ug/l	---	---	---	---	---	---	---
Magnesium	ug/l	---	---	---	---	---	---	---
Manganese	ug/l	---	---	---	---	---	---	---
Mercury	ug/l	---	---	---	---	---	---	---
Sodium	ug/l	---	---	---	---	---	---	---

Table 7
Detected Parameters
Groundwater Samples
Hows Corner Superfund Site
Plymouth, Maine

Parameter	Units	MW-206D 9/8/2004 MW-206D Primary	MW-206S 9/8/2004 MW-206S Primary	PW-207 9/9/2004 PW-207 Primary	PW-207 9/20/2004 PUMP 1 Primary	PW-207 9/22/2004 PUMP 2 Primary	PW-207 9/22/2004 PUMP 2 DUP Duplicate	PW-207 9/23/2004 PUMP 3 Primary
Petroleum Hydrocarbons								
TPH	ug/l	—	—	---	690	450	460	440
Water Quality Parameters								
Alkalinity (as CaCO3)	mg/l	—	—	---	120	110	110	100
Bicarbonate (as CaCO3)	mg/l	---	—	---	120	110	110	100
Chloride	mg/l	---	—	---	2.2	2.4	2.2	2.4
Dissolved oxygen	mg/l	---	---	---	---	---	---	—
eH	mv	—	---	---	---	---	---	—
Ferric iron	mg/l	—	---	---	---	---	---	---
Ferrous iron	mg/l	—	---	---	---	---	---	---
Methane	mg/l	---	---	---	---	---	---	---
Nitrate (as N)	mg/l	---	—	---	0.2	0.052	0.054	0.056
pH		---	---	---	---	—	---	---
Residue, filterable	mg/l	---	---	---	130	120	120	130
Specific conductivity	umhos/cm	---	---	---	---	---	---	---
Sulfate	mg/l	---	—	---	5.2	3.4	3.4	3.4
Sulfide	mg/l	---	—	---	<1	<1	<1	<1
Temperature	cent	---	---	---	---	---	---	---
Total organic carbon	mg/l	---	---	---	---	---	---	---
Turbidity	ntu	—	—	---	---	---	---	---

< = not detected at reporting limit
--- = not analyzed
B = estimated (inorganics)
E = estimated
J = estimated
R = rejected
U = revised to non-detected

Table 10
Summary of Chemicals of Concern and Medium-Specific Exposure Point Concentrations
Hows Corner Superfund Site
Plymouth, Maine

Scenario Timeframe: Current/Future
Medium: Groundwater
Exposure Medium: Monitoring Wells

Exposure Point	Chemical of Concern	Concentration Detected		Units	Frequency of Detection	Exposure Point Concentration	Exposure Point Concentration Units	Statistical Measure
		Min	Max					
Source area/non-source area monitoring wells	1,1-Dichloroethylene	0.5	24	ppb	16/29	0.024	ppm	Max.
	Cis-1,2 Dichloroethane	0.8	1000	ppb	20/29	1.0	ppm	Max.
	1,1,1-Trichloroethane	0.9	620	ppb	23/29	0.620	ppm	Max.
	Trichloroethylene	0.7	4,800	ppb	20/29	4.8	ppm	Max.
	Tetrachloroethylene	0.6	18,000	ppb	23/29	18.0	ppm	Max.
	1,2,4-Trichlorobenzene	0.7	160	ppb	5/29	0.160	ppm	Max.
	Bis(2-ethylhexyl)phthalate	5.0	120	ppb	6/44	0.120	ppm	Max.
	Aroclor 1260	0.25	119	ppb	4/45	0.119	ppm	Max.
	Dieldrin	<0.1	0.24	ppb	1/3	0.00024	ppm	Max.
	Manganese	1.5	8,540	ppb	32/44	8.540	ppm	Max.
	Arsenic	2.2	42.5	ppb	6/44	0.425	ppm	Max.

Key

ppb: Parts per billion
ppm: Parts per million
Max: Maximum Concentration

The table presents the chemicals of concern (COCs) and exposure point concentration for each of the COCs detected in groundwater (*i.e.*, the concentration that will be used to estimate the exposure and risk from each COC in the groundwater). The table includes the range of concentrations detected for each COC, as well as the frequency of detection (i.e., the number of times the chemical was detected in the samples collected at the site), the exposure point concentration (EPC), and how the EPC was derived. The table indicates that tetrachloroethylene is the most frequently detected COC in groundwater at the site. Due to the limited number of sampling events, the maximum concentration was used as the default exposure point concentration for all COCs.

Table 11
Cancer Toxicity Data Summary
Hows Corner
Superfund Site
Plymouth, Maine

Pathway: Ingestion, Dermal

Chemical of Concern	Oral Cancer Slope Factor	Dermal Cancer Slope Factor	Slope Factor Units	Weight of Evidence/Cancer Guideline Description	Source	Date (MM//YY)
1,1-Dichloroethylene	**N/A**	**N/A**	**(mg/kg)/day**	**C**	**IRIS**	**08/06**
Trichloroethylene	**0.4**	**0.4**	**(mg/kg)/day**	**N/A**	**NCEA**	**08/01**
Tetrachloroethylene	**0.051**	**0.051**	**(mg/kg)/day**	**N/A**	**EPA/OSWER**	**04/03**
Bis(2-ethylhexyl)phalate	0.014	0.014	(mg/kg)/day	B2	IRIS	08/06
Aroclor 1260	2.0	2.0	(mg/kg)/day	B2	IRIS	08/06
Dieldrin	16	16	(mg/kg)/day	B2	IRIS	8/06
Arsenic	1.5	1.5	(mg/kg)/day	A	IRIS	8/06

Key
N/A : No information available
IRIS: Integrated Risk Information System, U.S. EPA
NCEA: External Review Draft: Trichloroethylene Health Risk Assessment, August 2001
EPA/OSWER: OSWER Directive 9285.7-74
A - Human carcinogen
B1 - Probable human carcinogen - Limited human data are available
B2 - Probable human carcinogen - Indicates sufficient evidence in animals and inadequate or no evidence in humans
C - Possible human carcinogen
D - Not classifiable as a human carcinogen
Values in **bold** are those that have changed since the 2002 Interim ROD.

Summary of CancerToxicity Assessment

This table provides carcinogenic risk information which is relevant to the contaminants of concern in both soil and ground water. At this time, slope factors are not available for the dermal route of exposure. Thus, the dermal slope factors used in the assessment have been extrapolated from oral values. An adjustment factor is sometimes applied, and is dependent upon how well the chemical is absorbed via the oral route. Adjustments are particularly important for chemicals with less than 50% absorption via the ingestion route. However, adjustment is not necessary for the chemicals evaluated at this site. Therefore, the same values presented above were used as the dermal carcinogenic slope factors for these contaminants.

Table 12
Non-Cancer Toxicity Data Summary
Hows Corner
Superfund Site
Plymouth, Maine

Pathway: Ingestion, Dermal

Chemical of Concern	Chronic Oral RfD Value	Oral RfD Units	Dermal RfD	Chronic Dermal RfD Units	Primary Target Organ	Combined Uncertainty/ Modifying Factors	Sources of RfD: Target Organ	Dates of RfD: Target Organ (MM//YY)
1,1-Dichloroethylene	**0.05**	**mg/kg-day**	**0.05**	**mg/kg-day**	**Liver**	**1000**	**IRIS**	**08/06**
Cis-1,2-Dichloroethylene	0.01	mg/kg-day	0.01	mg/kg-day	Blood	3000	PPRTV	08/06
1,1,1-Trichloroethane	**N/A**	**mg/kg-day**	**N/A**	**mg/kg-day**	**N/A**	**N/A**	**EPA/OSWER**	**04/03**
Trichloroethylene	0.0003	mg/kg-day	0.0003	mg/kg-day	Liver, Kidney, Fetus	N/A	N/A	N/A
Tetrachloroethylene	0.01	mg/kg-day	0.01	mg/kg-day	Liver	1000	IRIS	08/06
Bis(2-ethylhexyl)phthalate	0.02	mg/kg-day	0.02	mg/kg-day	Liver	1000	IRIS	08/06
Aroclor 1260	0.00002	mg/kg-day	0.00002	mg/kg-day	Eye, immune system	300	IRIS	08/06
Arsenic	0.0003	mg/kg-day	0.0003	mg/kg-day	Skin	3	IRIS	08/06
Manganese	0.024	mg/kg-day	0.024	mg/kg-day	CNS	1	IRIS	08/06

Key
N/A: No information available
IRIS: Integrated Risk Information System, U.S. EPA
PPRTV: Provisional Peer-Reviewed Toxicity Value, EPA, Office of Research and Development, National Center for Exposure Assessment (ORD/NCEA)
EPA/OSWER: OSWER Directive 9285.7-74
Values in **bold** are those that have changed since the 2002 Interim ROD.

Summary of Non-Cancer Toxicity Assessment

This table provides non-carcinogenic risk information which is relevant to the contaminants of concern in ground water. As was the case for the carcinogenic data, dermal RfDs can be extrapolated from the oral RfDs applying an adjustment factor as appropriate.

Table 13.A
Risk Characterization Summary – Carcinogenic Effects
Hows Corner
Superfund Site
Plymouth, Maine

Scenario Timeframe: Current/Future
Receptor Population: Resident
Receptor Age: Child/Adult

Medium	Exposure Medium	Exposure Point	Chemical of Concern	Carcinogenic Risk			
				Ingestion	Inhalation	Dermal	Exposure Routes Total
Ground-water	Groundwater	Tapwater	Trichloroethylene	2.3E-02	2.3E-02	3.9E-03	4.9E-02
			Tetrachloroethyene	2.0E-02	2.0E-02	7E-03	5.0E-02
			Bis (2-ethylhexyl)phthalate	2.0E-05	--	3E-5	5.0E-5
			Aroclor 1260	2.8E-03	--	--	2.8E-03
			Dieldrin	4.5E-05	--	3.4E-05	8.0E-05
			Arsenic	7.5E-04	--	--	7.5E-04
						Ground-water risk total=	1.0E-03
						Total Risk =	**1.0E-03**

Key
-- Information not available to quantify risks.

Risk Characterization

This table provides risk estimates for the residential use of groundwater. Potential exposure is assumed to occur via ingestion, dermal absorption. Inhalation of volatile compounds is also assumed to occur during showering. These risk estimates are based on a reasonable maximum exposure and were developed by taking into account various conservative assumptions about the frequency and duration of a resident's (child and adult) exposure ground water, as well as the toxicity of the COCs . Risks via inhalation of volatiles during showering were qualitatively assumed to be equal to risks from the ingestion route.

Table 13.B
Risk Characterization Summary - Non-Carcinogenic Effects
Hows Corner
Superfund Site
Plymouth, Maine

Scenario Timeframe: Current/Future
Receptor Population: Resident
Receptor Age: Child/Adult

Medium	Exposure Medium	Exposure Point	Chemical of Concern	Primary Target Organ	Non-Carcinogenic Hazard Quotient			
					Ingestion	Inhalation	Dermal	Exposure Routes Total
Ground-water	Ground-water	Tapwater	1,1-Dichloroethylene	Liver	0.01	0.01	0.07	0.09
			Cis-1,2-Dichloroethylene	Blood	2.7	2.7	--	5.4
			1,1,1-Trichloroethane	N/A	N/A	N/A	N/A	N/A
			Trichloroethylene	Liver	438	438	74	948
			Tetrachloroethylene	Liver	49	49	30	128
			Bis(2-ethylhexyl)phthalate	Liver	0.16	--	0.25	0.41
			Aroclor 1260	Eye, immune system	38	--	--	38
			Arsenic	Skin	39	--	--	39
			Manganese	Central Nervous System	10	--	--	10
Groundwater Hazard Index Total =								**1000**
							Receptor Hazard Index =	**8.3**
							Liver Hazard Index =	**8.3**

Key
— : Toxicity criteria are not available to quantitatively address this route of exposure.
N/A: Route of exposure is not applicable to this medium.

Example Language Describing Risk Characterization

This table provides hazard quotients (HQs) for each route of exposure and the hazard index (sum of hazard quotients) for all routes of exposure. The Risk Assessment Guidance (RAGS) for Superfund states that, generally, a hazard index (HI) greater than 1 indicates the potential for adverse noncancer effects. The estimated HI of 8.3 indicates that the potential for adverse noncancer effects could occur from exposure to contaminated soil containing 4,4'-DDT, dieldrin and benzo(a)pyrene. The noncancer risk from exposure to contaminated ground water could not be evaluated due to the lack of noncarcinogenic toxicity criteria for TCE.

Table 14
Comparison of Surface Water Compounds to Selected Benchmarks
Hows Corner Superfund Site
Plymouth, Maine

Compound	Minimum Detected Concentration, µg/L	Maximum Detected Concentration, µg/L	Frequency of Detection	Surface Water Benchmark Values, µg/L				
				Ecotox[1] Thresholds, 1996	Revised[2] Tier II SVC, 1996	Region IV[3] SV, 1996	USEPA WQC[4] CCC, 1999	MEDEP[5] Chronic SWPC, 1977
VOCs								
cis-1,2-DCE	7	22	2/30	NS[7]	**2,200**	NS	NS	NS
PCE	2	82	9/30	120	98	**84**	NS	840
1,1,1-TCA	0.7	5	7/30	62	**11**	528	NS	NS
TCE	2	18	2/28	350	**47**	NS	NS	21,900
Metals								
Arsenic	2.4	2.6B	2/28	**8.1**	NS	90	150	190
Chromium	0.63	5.3J	5/28	NS	NS	117	**11**	NS
Lead	0.72	1.8J	6/28	NS	NS	1.32	2.5	0.41
Mercury	<0.02	0.02	1/28	NS	1.3	**0.012**	0.77	**0.012**
Nickel	0.93	1.3	3/28	NS	NS	87.71	52	**40.4**
Zinc	16	20.8J	6/28	NS	NS	58.91	120	**27.1**

Bold text denotes lowest benchmark, which was used for comparison

[1]USEPA Eco Update, 1996

[2]SCV – Secondary Chronic Values form Suter and Tsao, 1996. Toxicological Benchmarks for Screening Potential Contaminants of Concern for Effects on Aquatic Biota, 1996; Revision Oak Ridge National Laboratory (ORNL).

[3]Screening Values, USEPA Region IV, October 1996. Values for lead, nickel, and zinc are hardness dependent, and are based on a hardness of 50 mg/l. Hardness in RI surface water samples ranged from 9.96 to 118 mg/l.

[4]CCC – Criterion Continuous Concentration, National Recommended Water Quality Criteria (WQC), USEPA, 1999. Values for lead, nickel and zinc are hardness dependent, and are based on a hardness of 100 mg/l. Hardness in RI surface water samples ranged from 9.96 to 118 mg/l.

[5]Maine DEP Chronic Surface Water Protection Criteria. Values for lead, nickel and zinc are hardness dependent, and are based on a hardness of 20 mg/l. Hardness in RI surface water samples ranged from 9.96 to 118 mg/l.

Shaded compound indicates that maximum detected concentration exceeds the lowest benchmark standard

[7]NS = No screening value available.

B = detected between the IDL and PQL (inorganics)

J = estimated

Table 15
Comparison of Sediment Concentrations to Selected Benchmarks
Hows Corner Superfund Site
Plymouth, Maine

Compound	Minimum Concentration	Maximum Concentration	Frequency of Detection	Benchmark Value					
				USEPA SQB, 1996[1]	Ingersoll et al, 1996[2]	USEPA Region IV 1996[3]	ORNL SQB, 1997[4]	Ontario SQC, 1996[5]	MacDonald et al. 2000 TEC[7]
VOCs, µg/kg									
1,1-DCA	8	80J	2/24	NS[6]	NS	NS	**27**	NS	NS
Methylene chloride	5	91 J	6/26	NS	NS	NS	**370**	NS	NS
cis-1,2-DCE	18	9,800J	5/25	NS	NS	NS	**400**	NS	NS
trans-1,2-DCE	<6	57J	1/24	NS	NS	NS	**400**	NS	NS
PCE	10	1,300	8/24	530	NS	NS	**410**	NS	NS
TCE	11	320J	5/24	1,600	NS	NS	**220**	NS	NS
acetone	14	742	26/27	NS	NS	NS	**8.7**	NS	NS
2-hexanone	40	870	7/23	NS	NS	NS	**22**	NS	NS
Metals, mg/kg									
Arsenic	1.9	32.7	28/28	NS	50	7.24	NS	**6.0**	9.79
Cobalt	0.66	28.8	27/28	NS	NS	NS	NS	**50**	NS
Copper	1.4	42.2	28/28	NS	190	18.7	NS	**16**	31.6
Lead	8	46.2	28/28	NS	99	**30.2**	NS	31	35.8
Mercury	0.01	0.37	24/28	NS	NS	**0.13**	NS	0.2	0.18
Zinc	8	145J	27/28	NS	550	124	NS	**120**	121

[1]SQB – Sediment Quality Benchmarks, USEPA Eco Update, January 1996.
[2]Value presented is an Effect Range-Medium value as calculated by Ingersoll et al. 1996. Concentrations are on a dry wt. basis, not normalized to TOC.
[3] Sediment Screening Values; USEPA Region IV, October 1996.
[4]ORNL SQB – Oak Ridge National Laboratory Sediment Quality Benchmarks, Jones et. al, 1997: Toxicological Benchmarks for Screening Contaminants of Potential Concern for Effects of Sediment Associated Biota: 1997 Revision. Values based on 1996 Tier II Surface Water Values. Values for acetone and 2-hexanone are based on equilibrium partitioning, which produces a conservative value for these and other polar nonionic compounds.
[5]Guidelines for Use at Contaminated Sites in Ontario, Appendix A, Table E: Sediment Quality Criteria, 1996.
[6]NS = No screening value available. J = concentration below quantitation limit.
Shaded compound indicates that maximum detected concentration exceeds the lowest benchmark standard.
Bold denotes lowest value, used as benchmark
TECs = Threshold Effect Concentrations, as determined by consensus-based approach, MacDonald et al., 2000.

Table 17
Hazard Quotients for Sediments
Hows Corner Superfund Site
Plymouth, Maine

Compound	Toxicity Reference Value (TRV)	Maximum Concentration			Hazard Quotients		
		Site Pond	Road Pond	Farm Pond	Site Pond	Road Pond	Farm Pond
Metals (ppb))							
Copper	16	4.6	26.2	31.7	0.29	**1.64**	**1.98**
Zinc	124	83	100	116	0.67	0.81	0.94
Lead	30.2	33	43.2	35.6	**1.09**	**1.43**	**1.18**
Arsenic	6	5.6	9.2	17.9	0.93	**1.53**	**2.98**
Mercury	0.13	0.08	0.37	0.02	0.62	**2.85**	0.15
VOCs (ppb)							
PCE	410	1300	34	48	**3.17**	0.08	0.12
TCE	220	320	62	15	**1.45**	0.28	0.07
Cis-1,1 DCE	400	580	9800	18	**1.45**	**24.50**	0.05
trans-1,2 DCE	400	ND	57	ND	NA	0.14	NA
1,1-DCA	27	8	80	ND	0.30	**2.96**	NA
Acetone	8.7	61	520	112	**7.01**	**59.77**	**12.87**
2-Heanone	22	ND	ND	ND	NA	NA	NA

NA= Not applicable; compound not a CPC for this media
ND= compound not detected at concentration indicated
HQ= Maximum Concentration/ TRV
Note: Site related COCs with HQs>1 are shaded

Table 19

Cost Estimate: Alternative SGW-3
Hydraulic Containment of Source Area Groundwater

DIRECT COSTS	Remedy Costs	Expended Costs	Projected Costs
Institutional Controls			
Legal assistance, including Community Relations and Preparation of Restrictive Covenants	$515,000	$283,961	$231,039
Engineering Support	$60,000		$60,000
Subtotal - Institutional Controls	$575,000	$283,961	$291,039
Groundwater Extraction System	$8,333		$8,333
Treatability/Pumping Study for Groundwater System	$125,000	$95,000	$30,000
Groundwater Treatment System	$885,000		$885,000
Environmental Monitoring Well Installation	$115,000		$115,000
Installation of Groundwater Extraction /Treatment/ Discharge Systems	$366,667		$366,667
Environmental Monitoring Well Installation	$135,000		$135,000
Subtotal - Extraction/Treatment/Reinjection System	$1,635,000	$95,000	$1,540,000
Public Water Supply System Upgrades			
Pumping Station Upgrades			
Pump Installation (yr 3)	$34,000		$34,000
Upgrade/Program PLC (Program Logic Control) (yr 3)	$19,000		$19,000
Waterline Extensions and Water Tower	$911,197	$735,197	$176,000
Connections of Residences to Public Water System	$1,591,000	$392,167	$1,198,833
Alternative Water Supply Evaluation/Construction	$100,000		$100,000
SUBTOTAL	$4,865,197	$1,506,325	$3,358,872
20% Contingency on Projected Direct Costs	$672,000		$672,000
TOTAL DIRECT COSTS	$5,537,000	$1,506,000	$4,031,000
INDIRECT COSTS			
Health and Safety @ 5%	$187,000		$187,000
Legal, Administrative and Permitting @ 5%	$187,000		$187,000
Engineering Design @ 10%	$374,000		$374,000
Services during Construction @ 10 %	$374,000		$374,000
TOTAL INDIRECT COSTS	$1,122,000	$0	$1,122,000
TOTAL CAPITAL COSTS (DIRECT AND INDIRECT)	**$6,659,000**	**$1,506,000**	**$5,153,000**
ANNUAL OPERATION AND MAINTENANCE COSTS			
Treatment System (Labor, Power, Chemicals, Maintenance, etc.)	$100,000		$100,000
Monitoring Extraction Wells (Quarterly)	$5,000		$5,000
Treatment System Monitoring (Monthly)	$27,900		$27,900
Extraction Well Maintenance	$25,000		$25,000
Institutional Controls Effectiveness Review	$10,000		$10,000
SUBTOTAL	$167,900		$167,900
Engineering @ 10%	$17,000		$17,000
Contingency on Annual O&M	$17,000		$17,000
TOTAL O&M COSTS	$201,900		$201,900
TOTAL PRESENT WORTH ANNUAL O&M COSTS (7%, 30 YEARS)	**$2,504,000**		**$2,504,000**

Table 19

Cost Estimate: Alternative SGW-3
Hydraulic Containment of Source Area Groundwater

Five Year Site Reviews (includes 20% Contingency)	$60,000		$60,000
TOTAL PRESENT WORTH OF FIVE YEAR SITE REVIEWS (7%, 30 YEARS)	**$129,000**		**$129,000**
Annual Environmental Monitoring (includes 20% contingency) (Residential Wells, Groundwater, Surface Water/Sediments, Restored Wetlands)	$160,000		$160,000
TOTAL PRESENT WORTH ANNUAL ENVIRONMENTAL MONITORING COSTS (7%, 30 Years)	**$1,985,000**		**$1,985,000**
TOTAL PRESENT WORTH (30 YEARS) - ALTERNATIVE SGW-3	**$11,277,000**	**$1,506,000**	**$9,771,000**

TABLE 20
West Site/Hows Corner RI/FS PRP Group
Table of Properties in the Institutional Control Zone

Property Owner at Time Res. Cov. was Executed	Tax Map & Lot #	Date Res. Cov. Rec. and Book & Page	Connections PRP Group Agreed to Install	Connections Completed by EPA	Completed Connections	Structure on Property	Well on Property	Well Decommissioned
Skidgel, Sid	Map 2, Lot 2	No Res. Cov.	0	0	0	Yes, but not within the ICZ.	Yes, but not within the ICZ.	No
Hanson, Terry	Map 2, Lot 3	No Res. Cov.	0	1	1 (EPA)	Yes	Yes	No
Hanson, Terry	Map 2 Lot 3-1	No Res. Cov.	0	1	1 (EPA)	Yes	Yes	No
Melanson, Leland and Teri	Map 3 Lots 7 & 7-1	11/12/03 9079/109 (Res. Cov. applies to Lot 7-1 only)	1 (Lot 7-1)	0	1 (W&C connected Lot 7-1 in Fall of 2004).	Yes (Lot 7-1 and Lot 7)	Yes (Lot 7) No (Lot 7-1)	No (Lot 7). Not applicable (Lot 7-1 did not have a private well).
Waning, Joyce	Map 3 Lot 8 & Lot 22-1	07/29/03 8874/156 Res. Cov. Covers both Lots 8 & 22-1	2	0	1 (W&C connected Lot 8 in Fall of 2003).	Yes (Lot 8) No (22-1)	Yes, on both lots but well on Lot 22-1 is not within the ICZ.	Yes, for Lot 8 in the Summer of 2005. Lot 22-1 has not been decommissioned.
Foss, Michael and Brenda	Map 3 Lot 8-1	No Res. Cov.	0	0	0	Yes	Yes	No
Waning, Bonnie L.	Map 3 Lot 8-2	07/29/03 8874/132	1	0	1 (W&C in Fall of 2003).	Yes	Yes	Yes, in the Summer of 2005.
Hopkins, Leon F. and Shirley M.	Map 3 Lots 9 & 10	12/09/02 8487/052 Res. Cov. covers both Lots 9 & 10.	2	0	2 (W&C connected Lots 9 &10 in 2000-2002).	Yes (Lot 9 and Lot 10)	No (Lot 9) Yes, but not within the ICZ (Lot 10)	Not applicable (Lot 9). No (Lot 10).
Levesque, Michael K.	Map 3 Lots 12 & 21	07/02/03 8827/218 Res. Cov. Covers both Lots 12 & 21	4	0	2 (W&C connected trailer off Rt. 7 and vacant lot on Mildel Lane in Summer of 2004)	Yes (Lot 21, trailer off Rt. 7)	No (Lot 12) Yes (Lot 21, trailer off Rt. 7)	Not applicable (Lot 12) Yes (Lot 21 off Rt. 7) in the Summer of 2005.
Hopkins, Sr., Galen and Waning, Joyce	Map 3, Lots 13-1, 14	08/05/03 8890/179	2	0	0	No (Lot 13-1 and 14)	No (Lot 13-1 and 14)	Not applicable.

TABLE 20
West Site/Hows Corner RI/FS PRP Group
Table of Properties in the Institutional Control Zone

Property Owner at Time Res. Cov. was Executed	Tax Map & Lot #	Date Res. Cov. Rec. and Book & Page	Connections PRP Group Agreed to Install	Connections Completed by EPA	Completed Connections	Structure on Property	Well on Property	Well Decommissioned
Woodward, Doug and Becky and Hopkins, Sr., Galen and Waning, Joyce	Map 3 Lot 14-1	08/05/03 8890/167	0	0	0	Yes	Yes, but not in the ICZ.	No
Terrill, Derek	Map 3 Lot 14-2	No Res. Cov.	0	0	0	Yes, but not in the ICZ.	Yes, but not in the ICZ.	No
Gilbert, James and Audrey	Map 3 Lot 15	08/05/03 8890/194	1 (Memorandum of Agreement for connection to barn)	1	2 (Lot 15 connected by EPA and barn by W&C)	Yes	Yes	Yes, in the Fall of 2004.
Lambert, Lori	Map 3 Lot 15-1	07/02/03 8827/231	1	0	1 (W&C in Fall of 2003)	Yes	Yes	Yes, in the Fall of 2004.
Mesick, Cheryl	Map 3 Lot 16	07/29/03 8874/105	0	1	1 (EPA)	Yes	Yes	Yes, in the Fall of 2004.
Gerry, Robert and Robin	Map 3 Lot 16-1	No Res. Cov.	0	1	1 (EPA)	Yes	Yes	No
Lunt, Robert	Map 3 Lot 17	No Res. Cov.	0	1	1 (EPA)	Yes	Yes	No
Spaulding, Everett R., Jr. & Juanita E.	Map 3 Lot 17-1	08/05/03 8890/254	0	1	1 (EPA)	Yes	No well.	Not applicable.
King, Jacquelyn	Map 3 Lot 18	No Res. Cov.	0	1	1 (EPA)	Yes	Yes	No
Cahill, Timothy	Map 3 Lot 19	08/05/03 8890/155	0	1	1 (EPA)	Yes	Yes	Yes, in the Fall of 2004.
Farrar, Robert and Laurine	Map 3 Lots 20, 21-10, 21-7, 21-15	07/02/03 8827/244 10/31/05 _____ (Res. Cov. Covers all four lots)	2	2	4 (Lot 21-10 and 21-7 connected by EPA. Lot 20 received 2 connections by W & C in Summer of 2005.)	Yes (Lot 21-7 and Lot 21-10). No (Lot 20 and Lot 21-15)	Yes (Lots 20, 21-7 and 21-10). No (Lot 21-15).	Yes, Lots 20, 21-7 and 21-10 decommissioned in the Summer and Fall of 2005. Not applicable (Lot 21-15).
Thompson, Ernest & Theresa	Map 3 Lot 21-1	08/05/03 8890/266	0	1	1 (EPA)	Yes	Yes	Yes, in the Summer of 2005.
Clark, Andrew and Mildred	Map 3, Lot 21-2	01/28/03 8563/233	0	1	1 (EPA)	Yes	Yes	Yes, in the Summer of 2005.

TABLE 20
West Site/Hows Corner RI/FS PRP Group
Table of Properties in the Institutional Control Zone

Property Owner at Time Res. Cov. was Executed	Tax Map & Lot #	Date Res. Cov. Rec. and Book & Page	Connections PRP Group Agreed to Install	Connections Completed by EPA	Completed Connections	Structure on Property	Well on Property	Well Decommissioned
Leathers, Claudia and John	Map 3 Lot 21-3	07/21/03 8856/179	0	1	1 (EPA)	Yes	Yes	Yes, in the Summer of 2005.
Meservey, Allen & Barbara	Map 3 Lot 21-4	08/05/03 8890/242	0	1	1 (EPA)	Yes	Yes	Yes, in the Summer of 2005.
Worster, Maland J., Jr. & Deborah H.	Map 3 Lot 21-5	08/05/03 8890/290	0	1	1 (EPA)	Yes	Yes	Yes, in the Summer of 2005.
Carmichael, Richard and Bette J. Plaza Carmichael	Map 3 Lot 21-6	08/08/03 8897/338	0	1	1 (EPA)	Yes	Yes	Yes, in the Summer of 2005.
Ward, Barbara & Russell	Map 3 Lot 21-8	07/29/03 8874/168	0	1	1 (EPA)	Yes	Yes	Yes, in the Summer of 2005.
Robinson, Lindley and Janet	Map 3, Lot 21-9	02/19/03 8595/119	0	1	1 (EPA)	Yes	Yes	Yes, in the Summer of 2005.
Latham, Ronald and Anita Jane	Map 3, Lots 21-11, 21-12 & 21-13	08/05/03 8890/218 Res. Cov. covers all three lots: 21-11, 21-12, & 21-13	1	2	4 (EPA connected Lot 21-11 and 21-13; W&C connected Lot 21-12 in 2001 and well line to outside spigot at Lot 21-11 in Fall of 2003)	Yes (Lot 21-11, 21-12 and 21-13)	Yes (Lot 21-11, 21-12 and 21-13)	Yes, in the Summer of 2005 (all three lots).
Harris, Kevin and Cheryl	Map 3 Lot 21-14	07/02/03 8827/205	0	1	1 (EPA)	Yes	Yes	Yes, in the Summer of 2005.
Strawn, W. Lamar & Anna E.	Map 3 Lot 22	08/14/03 8908/227	3	0	0	No	No	Not applicable.
Gorman, Lois	Map 3 Lot 22-2	No Res. Cov.	0	0	0	Yes, but not in the ICZ.	Yes, but not in the ICZ.	No

TABLE 20
West Site/Hows Corner RI/FS PRP Group
Table of Properties in the Institutional Control Zone

Property Owner at Time Res. Cov. was Executed	Tax Map & Lot #	Date Res. Cov. Rec. and Book & Page	Connections PRP Group Agreed to Install	Connections Completed by EPA	Completed Connections	Structure on Property	Well on Property	Well Decommissioned
Waning, Jerilyn	Map 3 Lot 22-3	07/24/03 8867/263	2	0	2 (W&C connected house and garage in Fall of 2003).	Yes	Yes	Yes, in the Summer of 2005.
Hopkins, Clair	Map 3, Lot 22-4	5/28/03 8750/176	1	0	1 (W&C connected Lot 22-4 in Fall of 2003)	Yes	Yes	Yes, in the Summer of 2005.
Temple, John	Map 3 Lot 23	10/15/03 9031/054	1	0	0	Yes	Yes	No
Varnum, Mark & Kristina	Map 3 Lots 24 & 25	07/29/03 8874/144 Res. Cov. Covers both lots 24 & 25	0	2	2 (Lots 24 & 25 both connected by EPA).	Yes (Lot 24 and Lot 25)	No (Lot 24) Yes (Lot 25)	Yes, Lot 25 in the Summer of 2005. Not applicable – Lot 24
Kenney, Amy J., William E., Jr. and Jonathan W.S.	Map 3 Lot 25-1	08/05/03 8890/206	1	0	1 (W&C in Fall of 2003)	Yes	Yes	No. Kenney will not authorize.
McAtee, Dennis and Leola	Map 3 Lot 26	No Res. Cov.	0	1	1 (EPA)	Yes	No	Not applicable.
Plymouth, Town of (George West)	Map 3 Lot 27	09/17/03 8975/299	0	0	0	No	No	Not applicable. No residential wells on the property.
Viger, Norm & Dorothy	Map 3 Lot 28 & Lot 28-4 (Note: Lot 28 includes 28(E) and 28 (W)	07/29/03 8874/117 Res. Cov. Covers both lots 28 & 28-4.	6	2	2 (EPA)	Yes (Lot 28 and Lot 28-4)	Yes	Yes, two wells decommissioned in the Summer of 2005. (one on Lot 28, one on Lot 28-4).
Swan, Frank	Map 3 Lot 28-1	No Res. Cov.	0	1	1 (EPA)	Yes	Yes	No
Johnson, Faith	Map 3 Lot 28-2	07/02/03 8827/257	1	1	1 (EPA)	Yes	Yes	Yes, in the Summer of 2004.
Allen, Patrick M. and Pepper, Debra M.	Map 3 Lot 28-3	08/05/03 8890/143	0	1	1 (EPA)	Yes	Yes	Yes, in the Summer of 2004.

TABLE 20
West Site/Hows Corner RI/FS PRP Group
Table of Properties in the Institutional Control Zone

Property Owner at Time Res. Cov. was Executed	Tax Map & Lot #	Date Res. Cov. Rec. and Book & Page	Connections PRP Group Agreed to Install	Connections Completed by EPA	Completed Connections	Structure on Property	Well on Property	Well Decommissioned
Laffen, Kathleen	Map 3 Lot 29	No Res. Cov.	0	0	0	No	Yes	No
Bean, Robert and Dorothy	Map 3 Lot 30	07/24/03 8867/275	2	0	0	No	Yes	Yes, in 1993.
Nason, Elton	Map 3 Lot 30-1	12/10/02 8491/116	1	0	1 (W&C connected 2004)	Yes	Yes	Yes, in the Fall of 2004.
Curit, Daniel E., Sr.	Map 3 Lots 30-2 & 30-3	10/15/03 9031/066 Res. Cov. Covers both lots 30-2 & 30-3.	2	0	2 (W&C connected Lot 30-3 in Fall of 2003; and Lot 30-2 in Summer of 2004)	No (Lot 30-2) Yes (Lot 30-3)	Yes (Lots 30-2 and 30-3)	Yes, wells on both lots were decommissioned in the Summer of 2005.
Elwell, Clifford and Marcia	Map 3 Lot 30-4	11/05/03 9069/115	1	0	1 (W&C connected Lot 30-4 in Fall of 2004)	Yes	Yes	Yes, in the Summer of 2005.
Rayser, Jeff and Uadiski, Natalie	Map 3 Lot 30-5	07/15/03 8846/231	0	1	1 (EPA)	Yes	Yes	Yes, in the Fall of 2004.
Hopkins, Galen and Brenda	Map 3 Lot 31	11/05/03 9069/127	7	0	0	Yes	Yes (2 wells)	No (2 wells)
Hopkins, Valerie	Map 3 Lot 31-1	No Res. Cov.	0	1	1 (EPA)	Yes	Yes	No
Hopkins, Russell and Wendy	Map 3 Lot 31-2	07/28/03 8873/097	1	0	1 (W&C in Fall of 2003)	Yes	Yes	Yes, in the Summer of 2004.
Bell, Lee	Map 3 Lot 32	08/08/03 8897/350	1	0	1 (W&C connected Lot 32 in Fall of 2003)	Yes	No	Not applicable.
McLean, Christine	Map 3 Lot 32-2	No Res. Cov.	0	0	0	Yes	Yes	No
Porter, Ted and Ruth	Map 3 Lot 33	05/20/04 9338/185	0	1	1 (EPA)	Yes	Yes	No. Porters will not authorize.
Ashton, Keith B. and Linda L.	Map 3 Lot 34	01/23/03 8556/158	0	1	1 (EPA)	Yes	Yes, but well could not be located on property.	Well is believed to have been destroyed.

TABLE 20
West Site/Hows Corner RI/FS PRP Group
Table of Properties in the Institutional Control Zone

Property Owner at Time Res. Cov. was Executed	Tax Map & Lot #	Date Res. Cov. Rec. and Book & Page	Connections PRP Group Agreed to Install	Connections Completed by EPA	Completed Connections	Structure on Property	Well on Property	Well Decommissioned
Veatch, Matthew A.	Map 3 Lot 35	08/05/03 8890/278	0	1	1 (EPA)	Yes	Yes, but well could not be located on property.	Well is believed to have been destroyed.
Norris, Mark	Map 3 Lot 36	No Res. Cov.	0	0	0	Yes, but not in ICZ.	Yes, but not in ICZ.	No
MacIntosh, Richard and Diane	Map 3, Lot 44	08/05/03 8890/230	1 well & piping	0	0	No	No	Not applicable
Caffyn-Meres, Karyn Estelle	Map 3 Lot 45	11/05/03 9069/101	1	0	0	Yes, but not in ICZ.	Yes, but not in ICZ.	No
Dunivan, Jerry and Lori	Map 3 Lots 46 & 47	No Res. Cov.	0	0	0	No (Lot 46). Yes, Lot 47, but not within ICZ.	No (Lot 46). Yes, Lot 47, but not within the ICZ.	No (Lot 47) Not Applicable (Lot 46)
Hoberg, John R. and Armstrong-Hoberg, Jayme A.	Map 3, Lot 48	11/06/03 9071/316	4	0	0	Yes, but not within the ICZ.	Yes, but not within the ICZ.	No
TOTAL	77 Lots		53	35	58 Connections on 53 Lots			38

NOTE: In the column captioned "Well on Property," the statement "No" or "No well" indicates that, to our knowledge, there is no well located on this property.

Appendix A

Town of Plymouth Groundwater Ordinance

TOWN OF PLYMOUTH
SPECIAL TOWN MEETING WARRANT

County of Penobscot, ss.

To: Darryl LaCroix, Constable of the Town of Plymouth, in said county:

GREETINGS:

You are hereby required in the name of the State of Maine to notify the voters of the Town of Plymouth, qualified to vote in Town affairs, to assemble at the Grange Hall in Plymouth on Monday, August 11, 2003 at 7:00 PM to act on the following articles, to wit:

Article 1: To elect a moderator to preside at said meeting.

Article 2: Shall an ordinance entitled "Town of Plymouth Groundwater Protection and Cleanup Ordinance" be enacted as follows:

GROUNDWATER PROTECTION AND CLEANUP ORDINANCE

TOWN OF PLYMOUTH, MAINE

Article I Title

This Ordinance shall be known and be cited as the Groundwater Protection and Cleanup Ordinance of the Town of Plymouth, Maine.

Article II Purpose

The purpose of this Ordinance is to protect the health, safety and general welfare of residents of Plymouth living in the vicinity of the former Portland Bangor Waste Oil Company facility by identifying a certain Groundwater Protection and Cleanup Zone ("GPZ"), and prohibiting the removal of groundwater from land located within the GPZ, so as to prevent exposure to and migration of contaminated groundwater and so as to discourage activity that would slow groundwater cleanup, until such time as the groundwater becomes potable.

Article III Scope and Authority

A. Within the boundaries of the GPZ, comprised as set forth in this Ordinance, no groundwater shall be extracted from the ground except as allowed under this Ordinance. This Ordinance shall apply to such areas notwithstanding the provisions of any other Town ordinance previously adopted.

B. This Ordinance is adopted pursuant to Article VIII-A of the Maine State Constitution and Title 30-A M.R.S.A. §§ 3001, 3002, and Title 38 M.R.S.A. § 401.

C. Prior to amendment or repeal of this Ordinance, the Town shall notify the Maine Department of Environmental Protection and the United States Environmental Protection Agency, or any successor agencies.

Article IV Definitions

Groundwater: All the water found beneath the surface of the ground. In this Ordinance the term also refers to the slowly moving subsurface water present in aquifers and recharge areas.

Article V Establishment and Delineation of GPZ, and Regulations.

For the purpose of this Ordinance, there is hereby established within the Town of Plymouth a certain GPZ area as depicted on the Plymouth Plan, entitled "Proposed Groundwater Protection Zone" prepared by Woodard & Curran which is hereby incorporated into this Ordinance by reference. If the State of Maine Department of Environmental Protection certifies that groundwater in a particular area of the GPZ is suitable for unrestricted use, after evaluation of groundwater monitoring data, this Ordinance shall be amended to remove that area from the GPZ.

Environmental investigation and remedial activities (including groundwater extraction) performed by or with the concurrence of the U.S. Environmental Protection Agency or the Maine Department of Environmental Protection are exempt from this Ordinance.

Within the GPZ, the drilling for or use of groundwater for any means, including residential wells, is prohibited, except that groundwater may be withdrawn for sampling to assess water quality by scientific analysis.

Within the GPZ, and within 2000 feet of the perimeter of the GPZ, these regulations shall apply:

(1) there shall be no commercial blasting as part of a quarrying or mining operation below the annual high water table, and

(2) before any person, corporation or business entity commences any commercial blasting or quarrying, such person, corporation or business entity will provide to the Municipal Officers evidence of the annual high water table level consisting of well water-level data certified by a Certified Maine Geologist showing that all blasting and quarrying

operations will be conducted above such level.

Article VI Violations

A. The Municipal Officers or the Chairman of the Planning Board shall institute or cause to be instituted, in the name of the Town, any and all actions, legal and equitable, that shall be appropriate or necessary for the enforcement of the provisions of this Ordinance.

B. Any person, firm or corporation, being the owner or occupant of, or having control or the use of, or land, found to violate any provision of this Ordinance, shall be guilty of a civil violation and upon conviction thereof, shall be punished by a fine of not less than $100.00, and no more than $250.00. Each day such violation is permitted to exist after notification thereof by the Town shall constitute a separate offense. Such persons shall also be liable for of the Town's court costs and reasonable attorneys' fees.

C. If a person violates this Ordinance and that activity alters the groundwater to cause an adverse impact, that person may be liable for all costs related to mitigating that impact under state law (including 38 M.R.S.A. § 1361 et seq.) and also for response costs under federal law (including 42 U.S.C. § 9601 et seq.).

Dated at Plymouth this 1st day of July in the Year of our Lord, Two Thousand Three.

Wade Richardson /s/ Wade Richardson

Christie Mackenzie /s/ Christie Mackenzie

Leon Hopkins /s/ Leon Hopkins

THE MUNICIPAL OFFICERS OF THE
TOWN OF PLYMOUTH

Approved 8/11/03

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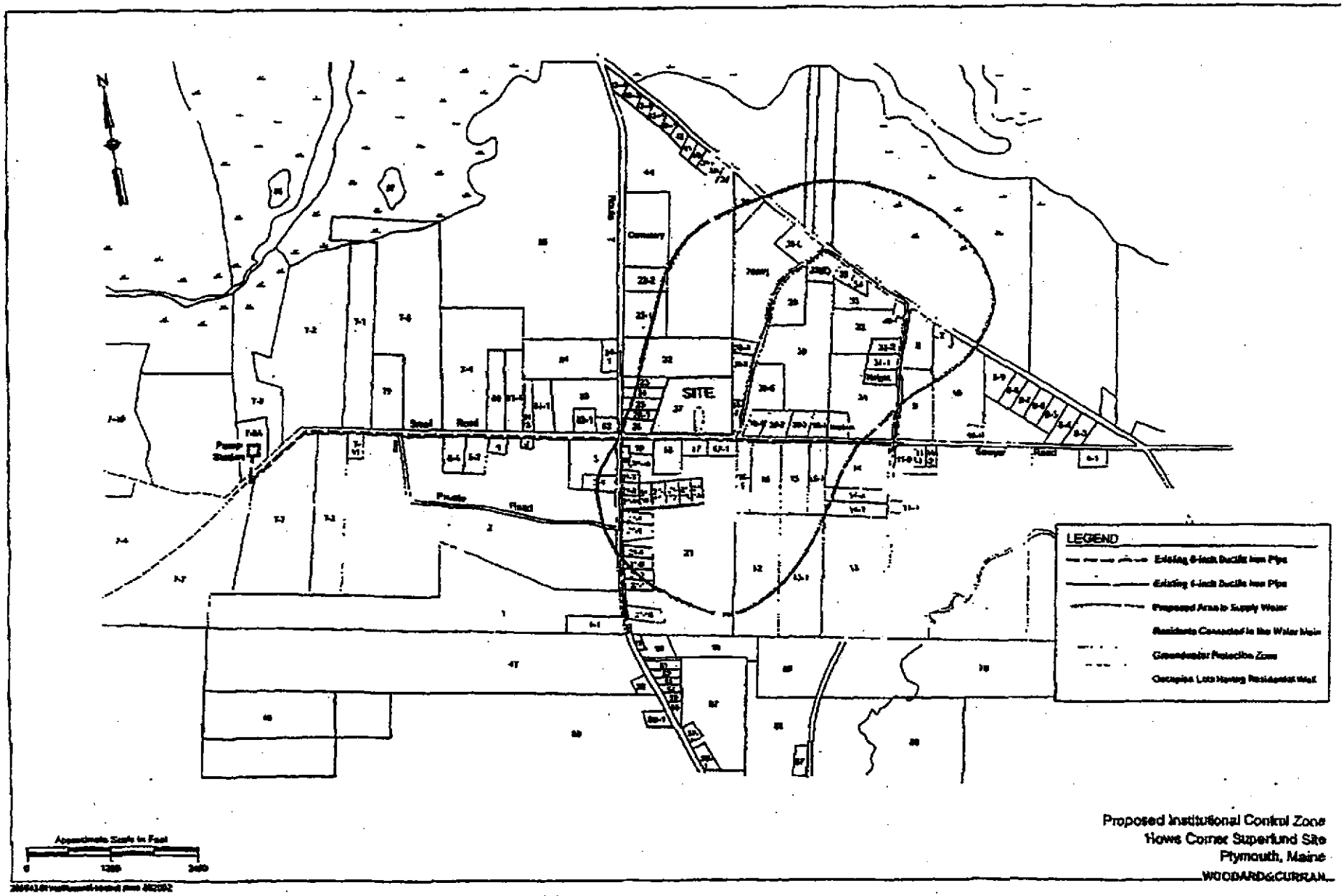

Proposed Institutional Control Zone
Howe Corner Superfund Site
Plymouth, Maine
WOODARD&CURRAN

Appendix B

ARARs Tables

SITE-WIDE ARARS
ACTION-SPECIFIC ARARS

HOWS CORNER SUPERFUND SITE
PLYMOUTH, MAINE

Requirement	Status	Requirement Synopsis	Actions To Be Taken To Attain ARARs
Groundwater and Surface Waters			
Federal Regulatory Requirements			
Clean Water Act (CWA) § 304(a) (33 U.S.C. §1314(a))	Relevant and Appropriate	Federal Ambient Water Quality Criteria (AWQC) include (1) health-based criteria developed for 95 carcinogenic and non-carcinogenic compounds and (2) other water quality parameters protective of fish and aquatic life. AWQC for the protection of human health provide levels for exposure from drinking water and consuming aquatic organisms, and from consuming fish alone.	Environmental monitoring will be evaluated from surface waters to ensure no adverse impact from this remedy.
Resource Conservation and Recovery Act (RCRA, 42 USC 6901-6992) - Groundwater Protection	Relevant and Appropriate	This regulation outlines the requirements for groundwater monitoring for RCRA-permitted hazardous waste Treatment, Storage, and Disposal (TSD) facilities.	Groundwater monitoring will be conducted in accordance with these requirements.
Underground Injection Control Regulations (40 CFR Parts 144, 145, 146, and 147)	Relevant and Appropriate	These regulations provide compliance standards for radioactive and hazardous waste that is injected underground. Injection must not endanger health or drinking water supplies.	Groundwater will be extracted for treatment and subsequently discharged to the subsurface. Extracted groundwater may need to be treated to meet the standards in this regulation.
RCRA – Identification and Listing of Hazardous Wastes (40 CFR 261)	Applicable	Defines those wastes that are subject to regulations as hazardous wastes under 40 CFR Parts 264-265 and Parts 124, 270, and 271.	Contaminanted media generated under this alternative will be tested and the analytical results evaluated against the criteria and definitions of hazardous waste. Waste will be treated, stored, and disposed of in accordance with results.

Groundwater and Surface Water (cont'd)			
Federal Regulatory Requirements (cont'd)			
RCRA – General Facility Standards (40 CFR 264.18)	Relevant and Appropriate	These regulations outline requirements for owners and operators of hazardous waste treatment, storage, and disposal facilities with respect to general waste analysis, security, general inspection requirements, personnel training, location standards, and general requirements for ignitable, reactive, or in compatible wastes.	These substantive requirements will be followed for the selected remedy.
RCRA - Contingency Plan and Emergency Procedures (40 CFR 264.50-264.56)	Relevant and Appropriate	These regulations outline the requirements for emergency procedures to be used following explosions, fires, etc., and they outline emergency procedures and requirements for the development of contingency plans.	These requirements will be followed for the selected remedy.
RCRA - Tank Systems (40 CFR 264.190-264.200)	Relevant and Appropriate	These regulations outline the general operating requirements and inspections of existing or newly installed tank systems. Specifically, containment and detection of releases is regulated, as well as responses to leaks or spills and special requirements for ignitable, reactive, and incompatible wastes.	If tank systems are constructed during remedial activities, they will be constructed to comply with the substantive provisions in this requirement.
RCRA - Air Emission Standards (40 CFR 264.1030-264.1036)	Relevant and Appropriate	These regulations outline standard emissions for process vents, closed-vent systems, and control devices. Requirements for test methods, procedures, recordkeeping, and reporting are also outlined.	If on-site hazardous waste facilities are constructed that include process vents, closed-vent systems and control devices subject to these regulations, the substantive requirements of these regulations will be met.
RCRA - Preparedness and Prevention (40 CFR 264.30-264.37)	Relevant and Appropriate	This regulation outlines requirements for safety equipment and spill-control requirements for hazardous waste facilities. This regulation specifies that facilities be designed, maintained,	These requirements will be followed for the selected remedy.

SITE-WIDE ARARS
ACTION-SPECIFIC ARARS

HOWS CORNER SUPERFUND SITE
PLYMOUTH, MAINE

Requirement	Status	Requirement Synopsis	Actions To Be Taken To Attain ARARs
Groundwater and Surface Waters (cont'd)			
State of Maine Regulatory Requirements			
Maine Rules to Control the Subsurface Discharge of Pollutants by Well Injection (38 M.R.S.A., Chapter 3, Section 413, Chapter 543)	Relevant and Appropriate	This regulation prohibits the injection of hazardous waste into or above water-bearing formations via a new Class V well. The subsurface discharge into or through a Class V well that would cause or allow the movement of fluid into an underground source of drinking water that may result in a violation of any Maine Primary Drinking Water Standard, or which may otherwise adversely affect public health, is prohibited.	These rules will be followed in determining the appropriate treatment of groundwater prior to subsurface discharge.
Air			
State of Maine Regulatory Requirements			
Maine Air Quality Control Laws; Protection and Improvements of Air (38 M.S.R.A. 581-608-A), Chapters 101, 105, 110, 115.	Relevant and Appropriate	This law and its associated regulations detail the requirements, limitations, and exemptions of state air emissions including fugitive dust and emissions from air strippers.	Measures will be taken under this alternative to comply with these regulations.
Interim Ambient Air Guidelines	TBC	These guidelines provide ambient air standards used to set emissions.	These guidelines will be considered when reviewing any action that results in air emissions.
38 M.R.S.A CMR 530.5	Relevant and Appropriate	Includes state ambient water quality criteria for direct and indirect sources.	Criteria will be monitored in surface waters to ensure that remedy is protective.
Maine Hazardous Waste Septage and Solid Waste Management Act,38 M.R.S.A 13, Chapters 850, 851, 853-857	Relevant and Appropriate	Includes state requirements for the management of waste.	Waste generated during remedial action will be hauled in accordance with these requirements.
Maine Classification of Waters Program 38 M.R.S.A. 465-C, 464(4)(A)(1)	Applicable	Provides for classification of Maine's surface and groundwater.	Actions taken at the Site that involve groundwater and surface water will be consistent with classifications.

SITE-WIDE ARARS
ACTION-SPECIFIC ARARS

HOWS CORNER SUPERFUND SITE
PLYMOUTH, MAINE

NOTES:

ARAR	=	Applicable or Relevant and Appropriate Requirement
CFR	=	Code of Federal Regulations
CWA	=	Clean Water Act
TSD	=	Treatment, Storage, and Disposal
RCRA	=	Resource Conservation and Recovery Act
µg/L	=	microgram per liter

SITE-WIDE ARARS
CHEMICAL-SPECIFIC ARARS

HOWS CORNER SUPERFUND SITE
PLYMOUTH, MAINE

Requirement	Status	Summary of Requirement	Action to be Taken to Attain ARARs
Groundwater and Surface Waters			
Federal Regulatory Requirements			
Safe Drinking Water Act (SDWA) § 1412 (42 U.S.C. § 300 g-1, 40 C.F.R. §§ 141.11 to 141.6)	Relevant and Appropriate	Maximum Contaminant Levels (MCLs) have been promulgated for several common organic and inorganic contaminants. These levels regulate the concentration of contaminants in public drinking water supplies, but may also be considered relevant and appropriate for groundwater aquifers used for drinking water.	MCLs will be met in non-source area groundwater and designated contaminates will be waived in source area groundwater.
SDWA § 1412 (42 U.S.C. § 300 g-1, 40 C.F.R. §§ 141.50 to 141.51)	Relevant and Appropriate	Non-zero Maximum Contaminant Level Goals (MCLGs) are health-based criteria established for a number of organic and inorganic contaminants as water quality goals for drinking water supplies. These goals may also be considered for groundwater aquifers used for drinking water.	Non-zero MCLs will be met in non-source area groundwater and designated contaminates will be waived in source area groundwater.
State of Maine Regulatory Requirements			
Maine Drinking Water Rules (10-144A C.M.R. Chapters 231-233)	Relevant and Appropriate	Maine's Primary Drinking Water Standards are equivalent to federal MCLs.	These requirements will be met in non-source area groundwater and designated contaminates will be waived in source area groundwater
Rules Relating to Testing of Private Water Systems for Potentially Hazardous Contaminants (10-144A C.M.R. Chapter 233, Appendix C).	Relevant and Appropriate	These rules establish criteria for potentially hazardous contaminants occurring in private residential water systems.	These requirements will be met for testing in residential wells.

SITE-WIDE ARARS
CHEMICAL-SPECIFIC ARARS

HOWS CORNER SUPERFUND SITE
PLYMOUTH, MAINE

Requirement	Status	Summary of Requirement	Action-specific Subject to Attainment of
Groundwater and Surface Waters (cont'd)			
State of Maine Regulatory Requirements (cont'd)			
Hazardous Waste Management Rule (06-096 C.M.R. Chapter 854).	Relevant and Appropriate	This rule establishes performance standards for establishment, construction, alteration, and operation of hazardous waste management units, including miscellaneous units. "No landfilled hazardous waste or constituent or derivative thereof shall appear in ground or surface waters at a concentration above background level, or above current public health drinking water standards for Maine, including the Maximum Exposure Guidelines, or standards for aquatic toxicity, whichever is more stringent." (Chapter 854, 58(A)(3)(a))	MEGs will be met in non-source area groundwater and designated contaminates will be waived in source area groundwater
Draft Interim Maximum Exposure Guidelines (MEGs) (Bureau of Health, Maine Department of Human Services, January 3, 2000)	To Be Considered	Health-based guidelines developed for drinking water by the Bureau of Health Environmental Toxicology Program.	These draft requirements will be considered to the extent they are more stringent than other standards cited above that have not been waived.

NOTES:

ARAR = Applicable or Relevant and Appropriate Requirement
MCL = Maximum Contaminant Level
MCLG = Maximum Contaminant Level Goal
MEG = Maximum Exposure Guideline
SDWA = Safe Drinking Water Act
µg/L = microgram per liter

SITE-WIDE ARARS
LOCATION-SPECIFIC ARARS

HOWS CORNER SUPERFUND SITE
PLYMOUTH, MAINE

Requirement	Status	Summary of Requirement	Action to be Taken to Attain ARARs
Wetlands/Floodplains			
Federal Regulatory Requirements			
Wetland Executive Order (EO11990), 40 C.F.R. Part 6, Appendix A	Applicable	The Wetlands Executive Order requires federal agencies to minimize the destruction, loss, or degradation of wetlands, and preserve and enhance natural and beneficial values of wetlands. Activity in a wetland is prohibited unless there is no practical alternative. If there is no practical alternative, impacts must be minimized.	Applicable if the one small wetland area is subject to federal jurisdiction. Additional small wetland areas are located within 0.5 to 1.0 mile of the Site. There is no practical alternative to containing source area groundwater. Efforts will be made to minimize impacts to wetland and surface water bodies from remedial activities.
Clean Water Act (CWA) § 404 Requirements for Dredged or Fill Material (33 U.S.C. § 1344, 40 C.F.R. Part 230)	Applicable	Under this requirement, no activity that adversely affects a wetland shall be permitted if a practicable alternative is available. There is no practical alternative to this alternative.	There are no jurisdictional wetlands on the Hows Corner Site. If wetlands are encountered, then this regulation would be applicable. In that case, all practicable measures will be taken to minimize and mitigate adverse impacts to those wetlands.
State of Maine Regulatory Requirements			
Maine Natural Resources Protection Act (NRPA, 38 M.R.S.A. §§ 480-A to 480-Z) Wetland Rules, Permit By Rule Standards (06-096 C. M.R. Chapters 305 and 310)	Applicable	This act outlines requirements and performance standards for certain activities in, on, over, or adjacent to freshwater wetlands, streams, ponds, or brooks. The activities must not unreasonably interfere with certain natural features, such as natural flow or quality of any waters, nor harm significant aquatic habitat, freshwater fisheries, or other aquatic life.	If remedial activities occur within a wetland area, stream, pond, or brook, the requirements of the NRPA will be met. Efforts will be made to protect all wetland and surface water bodies from significant adverse effects due to remedial activities.
Erosion and Sedimentation Control (38 M.R.S.A., Subsec. 420-C), Chapter 500, Stormwater Management Rules	Applicable	Erosion control measures must be implemented prior to the start of activities such as the displacement, filling, or exposure of any soil of earthen materials.	During construction activities, the appropriate controls will be in place to address erosion, sedimentation, and stormwater.

NOTES:

SITE-WIDE ARARS
LOCATION-SPECIFIC ARARS

HOWS CORNER SUPERFUND SITE
PLYMOUTH, MAINE

ARAR	=	Applicable or Relevant and Appropriate Requirement
CWA	=	Clean Water Act
NEPA	=	National Environmental Policy Act
NRPA	=	Natural Resources Protection Act
µg/L	=	microgram per liter

Appendix C

MEDEP Concurrence Letter

STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

JOHN ELIAS BALDACCI
GOVERNOR

DAVID P. LITTELL
COMMISSIONER

September 26, 2006

Ms. Susan Studlien, Director
Office of Site Remediation and Restoration
EPA New England
1 Congress Street, Suite 1100
Boston, MA 02114-2023

Re: September 2006 Final Draft Record of Decision Summary, West Site/Hows Corner Superfund Site, Plymouth, Maine

Dear Ms. Studlien:

The Maine Department of Environmental Protection (MEDEP) has completed its review of the Record of Decision Summary dated September 2006 (2006 ROD) for the West Site/Hows Corner Superfund Site located in Plymouth, Maine.

Based on this review MEDEP is pleased to concur with the selected remedy, Alternative 2 (GW-2): Limited Action/Technical Impracticability Waiver/Final Determination Monitored Natural attenuation/Vapor Intrusion. This alternative includes the following major components:

- Determination that drinking water quality standards will be met in the non-source area through monitored natural attenuation;
- Technical impracticability waiver of the source area groundwater;
- Investigation, and appropriate response if necessary, of the potential vapor intrusion pathway from contaminated groundwater to indoor air; and
- Five-year reviews.

Additionally, MEDEP concurrence on this 2006 ROD is based on our understanding that the hydraulic containment remedy of the September 2002 Interim ROD is being or will be implemented. The remedy components of the September 2002 Interim ROD are the following:

- installation and operation of a groundwater containment system to cut off the source area groundwater;

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RAY BLDG., HOSPITAL ST.

BANGOR
106 HOGAN ROAD
BANGOR, MAINE 04401
(207) 941-4570 FAX: (207) 941-4584

PORTLAND
312 CANCO ROAD
PORTLAND, MAINE 04103
(207) 822-6300 FAX: (207) 822-6303

PRESQUE ISLE
1235 CENTRAL DRIVE, SKYWAY PARK
PRESQUE ISLE, MAINE 04769-2094
(207) 764-0477 FAX: (207) 760-3143

web site: www.maine.gov/dep

- implementation of institutional controls to prevent exposure to contaminated groundwater;
- residential well monitoring with a public water contingency;
- long-term monitoring of groundwater, sediment and surface water; and
- five-year reviews.

This concurrence is based upon MEDEP's understanding that at the completion of the remedy, the residual risk posed by the site will be recalculated. As you know, per State of Maine policy, the upper bound incremental lifetime cancer risk that MEDEP can accept is 1 in 100,000; the upper bound hazard index that MEDEP can accept is 1.

Also, as stated during the June 28, 2006, Public Hearing and in our September 19, 2002, Interim ROD concurrence letter, MEDEP generally supports the implementation of active remedies to reduce the contaminant level in groundwater, in any manner, to shorten the length of time to meet groundwater cleanup ARARs throughout the entire site area.

Lastly, as has been and is the case with this site as well as other sites, MEDEP looks forward to working cooperatively with EPA to resolve the environmental problems posed by this site. If you need additional information, do not hesitate to contact myself or members of my staff at (207) 287-2651.

Respectfully,

Mark Hyland, Acting Director
Bureau of Remediation and Waste Management

pc: Mary Jane O'Donnell, EPA
Terry Connolly, EPA
Rebecca Hewett, MEDEP
Ted Wolfe, MEDEP
Hank Aho, MEDEP

2006 RODconcurrenceltr 9-2006.doc

Appendix D

References

List of References

United States Environmental Protection Agency, 1990. *National Oil and Hazardous Substances Pollution Contingency Plan* (National Contingency Plan); Code of Federal Regulations, Title 40, Part 300; Federal Register, Volume 55, Number 46, pp. 8666 et seq.; March 9, 1990.

_____, 1993, *Guidance for Evaluating the Technical Impracticability of Ground-Water Restoration – Interim Final*; Office of Solid Waste and Emergency Response; Washington D.C.; Directive 9234.2-25; September 1993.

_____, 1996, *Final Guidance, Presumptive Response Strategy and Ex Situ Treatment Technologies for Contaminated Ground Water at CERCLA Sites*; OSWER; Washington D.C.; EPA 540/R-96/023; October 1996.

_____, 1999a, *Use of Monitored Natural Attenuation at Superfund, RCRA Corrective Action, and Underground Storage Tank Sites*; OSWER; Washington D.C.; Directive 9200.4-17P; April 1999.

_____, 1999b, *A Guide to Preparing Superfund Proposed Plans, Records of Decision, and Other Remedy Selection Decision Documents*; OSWER Washington D.C.; Directive 9200.1-23P; July1999.

_____, 2002, *Draft Guidance for Evaluating the Vapor Intrusion Pathway to Indoor Air from Groundwater and Soils (Subsurface Vapor Intrusion Guidance)*; OSWER; Washington D.C., November 2002

_____, 2003, *The DNAPL Remediation Challenge: Is There a Case for Source Depletion?* Office of Research and Development; Washington D.C.; EPA/600/R-03/143; December 2003

_____, 2004, Strategy to Ensure Institutional Control Implementation at Superfund Sites, OSWER No. 9355.0-106, September 2004

_____,Woodard Curran Inc. (W&C), 2001. *Remedial Investigation Report;* July 2001.

_____, 2001. *Final Feasibility Study Report-Non-Source Area Groundwater*; July 2002.

_____, 2004. *Technical Impracticability Evaluation Report*; April 2006

Appendix E
List of Acronyms

September 2006

LIST OF ACRONYMS

aboveground storage tanks	(ASTs)
Administrative Order by Consent	(Removal AOC)
Administrative Order	(RI/FS AOC)
Administrative Order by Consent Remedial Design	(RD AOC)
Applicable or Relevant and Appropriate Requirements	(ARARs)
below ground surface	(bgs)
Contaminants of Concern	(COCs)
Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended	(CERCLA)
cis-dichloroethylene	(cis-1,2-DCE)
Conceptual Site Model	(CSM)
Consent Decree	(CD)
dense, non-aqueous phase liquid	(DNAPL)
dichloroethane	(1,1-DCA)
1,1-dichloroethene	(DCE)
Feasibility Study	(FS)
hazard quotients	(HQs)
human health risk assessment	(HHRA)
Institutional Control Zone	(ICZ)
Investigative Derived Waste	(IDW)
Maine Department of Environmental Protection	(MEDEP)
Maine Maximum Exposure Guidelines	(MEGs)
Maximum Contaminants Levels	(MCLs)
non-zero Maximum Contaminant Level Goals	(MCLGs)
monitored natural attenuation	(MNA)
National Oil and Hazardous Substances Pollution Contingency Plan	(NCP)
National Priorities List	(NPL)
operation and maintenance	(O&M)
polychlorinated biphenyls	(PCBs)
potentially responsible parties	(PRPs)
Reasonable Maximum Exposure	(RME)
Record of Decision	(ROD)
Remedial Investigation	(RI)
Remedial Investigation/Feasibility Study	(RI/FS)
response action objectives	(RAOs)
semi-volatile organic compounds	(SVOCs)
technical impracticability	(TI)
tetrachlorethene	(PCE)
trichloroethylene	(TCE)
trichloroethane	(1,1,1-TCA)
United States Environmental Protection Agency	(EPA)
volatile organic compounds	(VOCs)
West Site/Hows Corner Superfund Site Group of Potentially Responsible Parties	(PRP Group)
Woodard and Curran	(W&C)
micrograms per liter	(µg/L)7

Appendix F
Administrative Record Index and Guidance Documents

September 2006

West Site / Hows Corners
NPL Site Administrative Record
Record of Decision (ROD)
Operable Unit 2 (Source Area)

Index

ROD Signed
September 28, 2006

Administrative Record Released
October 12, 2006

Prepared by
EPA New England
Office of Site Remediation & Restoration

Introduction to the Collection

This is the Administrative Record for the West Site / Hows Corners Superfund site, Plymouth, ME, OU 2, Source Area, Record of Decision (ROD). The file contains site-specific documents and a list of guidance documents used by EPA staff in selecting a response action at the site.

This file updates and replaces the Administrative Record for the OU 2, Source Area, Record of Decision (ROD) Proposed Plan, May 2006.

This file includes, by reference, the administrative record file for the West Site / Hows Corners Record of Decision (ROD) OU1, October, 2002.

The administrative record file is available for review at:

Plymouth Town Hall
Route 7
Plymouth, ME 09969
207-257-4646
http://www.maine.gov/local/penobscot/plymouth/348.html

EPA New England Superfund Records & Information Center
1 Congress Street, Suite 1100 (HSC)
Boston, MA 02114 (by appointment)
617-918-1440 (phone)
617-918-0440 (fax)
http://www.epa.gov/region01/superfund/resource/records.htm

Questions about this administrative record file should be directed to the EPA New England site manager.

An administrative record file is required by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act (SARA).

03: REMEDIAL INVESTIGATION (RI)

251753 **SCOPE OF WORK (SOW), TECHNICAL IMPRACTIBILITY (TI) EVALUATION AND FIELD WORK FOR HYDRAULIC CONTAINMENT SYSTEM DESIGN (WITH TRANSMITTAL DATED 10/10/2003)**

Author: WOODARD & CURRAN
Addressee:
Doc Type: REPORT
Doc Date: 09/01/2003 **# of Pages:** 31
File Break: 03.03

251748 **REVIEW OF "SCOPE OF WORK (SOW), TECHNICAL IMPRACTIBILITY (TI) EVALUATION AND FIELD WORK FOR HYDRAULIC CONTAINMENT SYSTEM DESIGN"**

Author: CLAUDIA SAIT MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION
Addressee: WILLIAM LOVELY US EPA REGION 1
Doc Type: LETTER
Doc Date: 09/17/2003 **# of Pages:** 2
File Break: 03.03

251747 **REVIEW OF "APRIL 2003 SAMPLING REPORT"**

Author: CLAUDIA SAIT MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION
Addressee: WILLIAM LOVELY US EPA REGION 1
Doc Type: LETTER
Doc Date: 04/30/2004 **# of Pages:** 3
File Break: 03.02

251746 **REVIEW OF "WORKPLAN - TECHNICAL IMPRACTIBILITY (TI) EVALUATION AND FIELD WORK FOR HYDRAULIC CONTAINMENT SYSTEM DESIGN"**

Author: CLAUDIA SAIT MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION
Addressee: WILLIAM LOVELY US EPA REGION 1
Doc Type: LETTER
Doc Date: 05/11/2004 **# of Pages:** 7
File Break: 03.07

03: REMEDIAL INVESTIGATION (RI)

251751 **WORK PLAN, TECHNICAL IMPRACTIBILITY (TI) EVALUATION AND FIELD WORK FOR HYDRAULIC CONTAINMENT SYSTEM DESIGN**

Author: WOODARD & CURRAN
Addressee:
Doc Type: WORK PLAN
Doc Date: 07/01/2004
# of Pages: 37
File Break: 03.07

251752 **APPROVAL OF "TECHNICAL IMPRACTIBILITY (TI) EVALUATION AND FIELD WORK FOR HYDRAULIC CONTAINMENT SYSTEM DESIGN"**

Author: WILLIAM LOVELY US EPA REGION 1
Addressee: MARK E BELIVEAU ESQ PIERCE ATWOOD
Doc Type: LETTER
Doc Date: 07/23/2004
# of Pages: 1
File Break: 03.07

251754 **FIELD REPORT - TECHNICAL OVERSIGHT REMEDIAL INVESTIGATION / FEASIBILITY STUDY (RI/FS) CONDUCTED BETWEEN JULY 17, 2004 AND AUGUST 18, 2004 (WITH TRANSMITTAL)**

Author: MICHAEL HEALEY TETRA TECH NUS INC
Addressee:
Doc Type: MEMO
Doc Date: 08/30/2004
# of Pages: 6
File Break: 03.07

249962 **FIELD INVESTIGATION DATA PACKAGE, TECHNICAL IMPRACTIBILITY (TI) EVALUATION AND FIELD WORK FOR HYDRAULIC CONTAINMENT SYSTEM DESIGN**

Author: WOODARD & CURRAN
Addressee:
Doc Type: SAMPLING & ANALYSIS DATA
Doc Date: 10/22/2004
# of Pages: 1495
File Break: 03.02

03: REMEDIAL INVESTIGATION (RI)

251745 **REVIEW OF "FIELD INVESTIGATION DATA PACKAGE, TECHNICAL IMPRACTIBILITY EVALUATION AND HYDRAULIC CONTAINMENT SYSTEM"**

Author: CLAUDIA SAIT MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION
Addressee: TERRENCE R CONNELLY US EPA REGION 1
Doc Type: LETTER
Doc Date: 01/06/2005 **# of Pages:** 2
File Break: 03.02

251750 **COMMENTS ON "DRAFT TECHNICAL IMPRACTIBILITY EVALUATION"**

Author: TERRENCE R CONNELLY US EPA REGION 1
Addressee: MARK E BELIVEAU ESQ PIERCE ATWOOD
Doc Type: LETTER
Doc Date: 03/31/2005 **# of Pages:** 4
File Break: 03.06

251749 **RESPONSE TO EPA-DEP COMMENTS DATED MARCH 31, 2005 ON THE DRAFT TECHNICAL IMPRACTIBILITY EVALUATION (WITH TRANSMITTAL)**

Author: WOODARD & CURRAN
Addressee:
Doc Type: REPORT
Doc Date: 05/03/2005 **# of Pages:** 72
File Break: 03.06

251744 **REVIEW OF "RESPONSES TO COMMENTS DATED MARCH 31, 2005 ON THE DRAFT TECHNICAL IMPRACTICABILITY (TI) REPORT"**

Author: REBECCA L HEWETT ME DEPT OF ENVIRONMENTAL PROTECTION
Addressee: TERRENCE R CONNELLY US EPA REGION 1
Doc Type: LETTER
Doc Date: 06/13/2005 **# of Pages:** 3
File Break: 03.06

03: REMEDIAL INVESTIGATION (RI)

251756 **TECHNICAL IMPRACTICABILITY EVALUATION**

Author: WOODARD & CURRAN
Addressee:
Doc Type: REPORT
Doc Date: 04/07/2006
# of Pages: 396
File Break: 03.06

04: FEASIBILITY STUDY (FS)

251782 **EPA ANNOUNCES PROPOSED FINAL CLEANUP PLAN**

Author: US EPA REGION 1
Addressee:
Doc Type: FACT SHEET
Doc Date: 05/01/2006
# of Pages: 19
File Break: 04.09

05: RECORD OF DECISION (ROD)

246659 **RECORD OF DECISION, WITH DECLARATION - WEST SITE/HOWS CORNER**

Author: US EPA REGION 1
Addressee:
Doc Type: RECORD OF DECISION
Doc Date: 09/28/2006
# of Pages: 226
File Break: 05.04

06: REMEDIAL DESIGN (RD)

249963 **RESIDENTIAL TAP WATER PROGRAM, ANALYTICAL DATA THROUGH 2003**

Author: WOODARD & CURRAN

Addressee:

Doc Type: SAMPLING & ANALYSIS DATA

Doc Date: 01/01/2004 **# of Pages:** 385

File Break: 06.02

06: REMEDIAL DESIGN (RD)

65281 **ADMINISTRATIVE ORDER BY CONSENT (AOC) FOR REMEDIAL DESIGN (RD)**

Author: US EPA REGION 1

Doc Date: 05/05/2004 **# of Pages:** 248

File Break: 10.07

Addressee:
B GAS INC
BANGOR (ME), CITY OF
BANGOR HYDRO-ELECTRIC COMPANY
BAXTER STATE PARK
BRAKE SERVICE & PARTS INC
BREWER (ME), CITY OF
CARIBOU (ME), CITY OF
CENTRAL MAINE POWER COMPANY
CHADWICK-BAROSS INC
CIANBRO CORPORATION
COLD BROOK SAAB/HOLDEN SAAB
COWANS AMOCO
DARLINGS
DEAD RIVER COMPANY
DELTA AIRLINES INC
DIAMOND INTERNATIONAL CORP
DOWN EAST TOYOTA
EASTERN ME VOC TECH INSTITUTE/MAINE TECHNICAL COLLEGE SYSTEM
FARMINGTON (ME), TOWN OF
G E GODING & SONS INC
GAGNE DODGE INC
GARDNER TRANSPORT
GENERAL ELECTRIC CO
GOODYEAR TIRE & RUBBER COMPANY
GRAY FORD SALES/ALGRA INC
GRAYS EXXON
H A HERSEY INC

H C HAYNES INC
H E SARGENT INC
H O BOUCHARD INC
HARMONS TEXACO
HAROLD MCQUINN INC
HARRYS AUTO SALES INC
HEWS COMPANY INC
HIGHT CHEVROLET BUICK INC
HUSSON COLLEGE
INTERNATIONAL PAPER COMPANY
INTERSTATE BRANDS CORPORATION
INTERSTATE UNIFORM SERVICE/UNIFIRST CORP
JOHN T CLARK & SON OF BOSTON INC
L H LUTTRELL EXXON
LANE CONSTRUCTION CORPORATION THE
LINCOLN (RI) TOWN OF
LITTLETON (ME), TOWN O
M.S.A.D NO.9
MAINE ARMY NATIONAL GUARD
MAINE DEPARTMENT OF TRANSPORTATION
MAINE FOREST SERVICE
MAINE MACK INC
MAINE POTATO GROWERS INC
MAINE STATE POLICE
MAINE TEST BORINGS INC
MILLINOCKET (ME), TOWN OF
N H BRAGG & SONS
NATIONAL SEA PROUCTS INC/HIGHLINER FOODS
OUTWARD BOUND/HURRICANE ISLAND
PELLETIERS TRUCK CO
PIKE INDUSTRIES INC
RAWCLIFFES INC

ROWELLS GARAGE
RYDER TRUCK RENTAL INC
SEARS ROEBUCK AND CO
SHEPARD CHEVROLET
SHEPARD NISSAN INC
SWETTS SUNOCO/SWETTS TIRE & AUTO CO
TOWN AUTO SALES/JOHN F PARTRODGE
TRE-CLIF INC
UNIFIRST CORPORATION
UNIVERSITY OF MAINE SYSTEM
VERIZON NEW ENGLAND
VILLAGE SUBARU/VILLAGE MOBIL
WEBBER OIL COMPANY

Doc Type: LITIGATION

249977 **TABLE 1, SUMMARY OF QUARTERLY SAMPLING RESULTS, RESIDENTIAL TAP WATER PROGRAM**

Author: WOODARD & CURRAN
Addressee:

Doc Date: 12/01/2004 **# of Pages:** 3
File Break: 06.02

Doc Type: SAMPLING & ANALYSIS DATA

249965 **RESIDENTIAL WATER SAMPLING RESULTS (LOT 83-1)**

Author: FLORENCE L CLAUSEN WOODARD & CURRAN INC
Addressee: ALBERT GRAY PLYMOUTH (ME) RESIDENT
PEGGY GRAY PLYMOUTH (ME) RESIDENT

Doc Date: 12/27/2004 **# of Pages:** 5
File Break: 06.02

Doc Type: LETTER

06: REMEDIAL DESIGN (RD)

249966 **RESIDENTIAL WATER SAMPLING RESULTS (LOT 21-16)**

Author: FLORENCE L CLAUSEN WOODARD & CURRAN INC
Addressee: MICHAEL LEVESQUE PLYMOUTH (ME) RESIDENT
Doc Type: LETTER
Doc Date: 12/27/2004 **# of Pages:** 3
File Break: 06.02

249967 **RESIDENTIAL WATER SAMPLING RESULTS (LOT 7)**

Author: FLORENCE L CLAUSEN WOODARD & CURRAN INC
Addressee: LELAND MELANSON PLYMOUTH (ME) RESIDENT
TERRI MELANSON PLYMOUTH (ME) RESIDENT
Doc Type: LETTER
Doc Date: 12/27/2004 **# of Pages:** 5
File Break: 06.02

249968 **RESIDENTIAL WATER SAMPLING RESULTS (LOT 36)**

Author: FLORENCE L CLAUSEN WOODARD & CURRAN INC
Addressee: MARK NORRIS PLYMOUTH (ME) RESIDENT
Doc Type: LETTER
Doc Date: 12/27/2004 **# of Pages:** 3
File Break: 06.02

06: REMEDIAL DESIGN (RD)

249969 **RESIDENTIAL WATER SAMPLING RESULTS (LOT 31)**

Author: FLORENCE L CLAUSEN WOODARD & CURRAN INC
Addressee: BRENDA HOPKINS PLYMOUTH (ME) RESIDENT
GALEN HOPKINS PLYMOUTH (ME) RESIDENT
Doc Type: LETTER
Doc Date: 12/27/2004 **# of Pages:** 3
File Break: 06.02

249970 **RESIDENTIAL WATER SAMPLING RESULTS (LOT 11-1)**

Author: FLORENCE L CLAUSEN WOODARD & CURRAN INC
Addressee: PAM GODSOE PLYMOUTH (ME) RESIDENT
Doc Type: LETTER
Doc Date: 12/27/2004 **# of Pages:** 3
File Break: 06.02

249971 **RESIDENTIAL WATER SAMPLING RESULTS (LOT 8-1)**

Author: FLORENCE L CLAUSEN WOODARD & CURRAN INC
Addressee: BRENDA FOSS PLYMOUTH (ME) RESIDENT
MIKE FOSS PLYMOUTH (ME) RESIDENT
Doc Type: LETTER
Doc Date: 12/27/2004 **# of Pages:** 3
File Break: 06.02

06: REMEDIAL DESIGN (RD)

249972 **RESIDENTIAL WATER SAMPLING RESULTS (LOT 31-2)**

Author: FLORENCE L CLAUSEN WOODARD & CURRAN INC
Addressee: AMIE KNIGHT PLYMOUTH (ME) RESIDENT
BRUCE KNIGHT PLYMOUTH (ME) RESIDENT
Doc Type: LETTER
Doc Date: 12/27/2004 **# of Pages:** 3
File Break: 06.02

249973 **RESIDENTIAL WATER SAMPLING RESULTS (LOT 11-4)**

Author: FLORENCE L CLAUSEN WOODARD & CURRAN INC
Addressee: APRIL SAWYER PLYMOUTH (ME) RESIDENT
Doc Type: LETTER
Doc Date: 12/27/2004 **# of Pages:** 3
File Break: 06.02

249974 **RESIDENTIAL WATER SAMPLING RESULTS (LOT 11-2)**

Author: FLORENCE L CLAUSEN WOODARD & CURRAN INC
Addressee: DEAN WARD PLYMOUTH (ME) RESIDENT
SERENA WARD PLYMOUTH (ME) RESIDENT
Doc Type: LETTER
Doc Date: 12/27/2004 **# of Pages:** 3
File Break: 06.02

06: REMEDIAL DESIGN (RD)

249975 **RESIDENTIAL WATER SAMPLING RESULTS (LOT 11-3)**

Author: FLORENCE L CLAUSEN WOODARD & CURRAN INC
Addressee: BRENDA DERAPS PLYMOUTH (ME) RESIDENT
TIM DERAPS PLYMOUTH (ME) RESIDENT
Doc Type: LETTER
Doc Date: 12/27/2004 **# of Pages:** 3
File Break: 06.02

249976 **RESIDENTIAL WATER SAMPLING RESULTS (LOT 2)**

Author: FLORENCE L CLAUSEN WOODARD & CURRAN INC
Addressee: TERRY SKIDGEL PLYMOUTH (ME) RESIDENT
Doc Type: LETTER
Doc Date: 12/27/2004 **# of Pages:** 3
File Break: 06.02

249964 **RESIDENTIAL TAP WATER MONITORING PROGRAM, DECEMBER 2004 WATER SAMPLING RESULTS**

Author: FLORENCE L CLAUSEN WOODARD & CURRAN INC
Addressee: WILLIAM LOVELY US EPA REGION 1
Doc Type: SAMPLING & ANALYSIS DATA
Doc Date: 12/28/2004 **# of Pages:** 68
File Break: 06.02

06: REMEDIAL DESIGN (RD)

249988 **TABLE 1, QUARTERLY RESULTS, RESIDENTAL TAP WATER MONITORING**

Author: WOODARD & CURRAN
Addressee:
Doc Type: SAMPLING & ANALYSIS DATA

Doc Date: 04/01/2005 **# of Pages:** 103
File Break: 06.02

249978 **RESIDENTIAL WATER SAMPLING RESULTS (LOT 36)**

Author: FLORENCE L CLAUSEN WOODARD & CURRAN INC
Addressee: MARK NORRIS PLYMOUTH (ME) RESIDENT
Doc Type: LETTER

Doc Date: 04/06/2005 **# of Pages:** 3
File Break: 06.02

249979 **RESIDENTIAL WATER SAMPLING RESULTS (LOT 11-2)**

Author: FLORENCE L CLAUSEN WOODARD & CURRAN INC
Addressee: DEAN WARD PLYMOUTH (ME) RESIDENT
SERENA WARD PLYMOUTH (ME) RESIDENT
Doc Type: LETTER

Doc Date: 04/06/2005 **# of Pages:** 7
File Break: 06.02

06: REMEDIAL DESIGN (RD)

249980 **RESIDENTIAL WATER SAMPLING RESULTS (LOT 31-2)**

Author: FLORENCE L CLAUSEN WOODARD & CURRAN INC
Addressee: AMIE KNIGHT PLYMOUTH (ME) RESIDENT
BRUCE KNIGHT PLYMOUTH (ME) RESIDENT
Doc Type: LETTER
Doc Date: 04/06/2005 **# of Pages:** 3
File Break: 06.02

249981 **RESIDENTIAL WATER SAMPLING RESULTS (LOT 7)**

Author: FLORENCE L CLAUSEN WOODARD & CURRAN INC
Addressee: LELAND MELANSON PLYMOUTH (ME) RESIDENT
TERRI MELANSON PLYMOUTH (ME) RESIDENT
Doc Type: LETTER
Doc Date: 04/06/2005 **# of Pages:** 5
File Break: 06.02

249982 **RESIDENTIAL WATER SAMPLING RESULTS (LOT 32-2)**

Author: FLORENCE L CLAUSEN WOODARD & CURRAN INC
Addressee: ELLEN HAMES PLYMOUTH (ME) RESIDENT
Doc Type: LETTER
Doc Date: 04/06/2005 **# of Pages:** 5
File Break: 06.02

06: REMEDIAL DESIGN (RD)

249983 **RESIDENTIAL WATER SAMPLING RESULTS (LOT 31)**

Author: FLORENCE L CLAUSEN WOODARD & CURRAN INC
Addressee: BRENDA HOPKINS PLYMOUTH (ME) RESIDENT
GALEN HOPKINS PLYMOUTH (ME) RESIDENT
Doc Type: LETTER
Doc Date: 04/06/2005 **# of Pages:** 3
File Break: 06.02

249984 **RESIDENTIAL WATER SAMPLING RESULTS (LOT 11-1)**

Author: FLORENCE L CLAUSEN WOODARD & CURRAN INC
Addressee: PAM GODSOE PLYMOUTH (ME) RESIDENT
Doc Type: LETTER
Doc Date: 04/06/2005 **# of Pages:** 3
File Break: 06.02

249985 **RESIDENTIAL WATER SAMPLING RESULTS (LOT 11-3)**

Author: FLORENCE L CLAUSEN WOODARD & CURRAN INC
Addressee: BRENDA DERAPS PLYMOUTH (ME) RESIDENT
TIM DERAPS PLYMOUTH (ME) RESIDENT
Doc Type: LETTER
Doc Date: 04/06/2005 **# of Pages:** 3
File Break: 06.02

06: REMEDIAL DESIGN (RD)

249986 **RESIDENTIAL WATER SAMPLING RESULTS (LOT 21-16)**

Author: FLORENCE L CLAUSEN WOODARD & CURRAN INC
Addressee: MICHAEL LEVESQUE PLYMOUTH (ME) RESIDENT
Doc Type: LETTER
Doc Date: 04/06/2005 **# of Pages:** 3
File Break: 06.02

249987 **RESIDENTIAL WATER SAMPLING RESULTS (LOT 8-1)**

Author: FLORENCE L CLAUSEN WOODARD & CURRAN INC
Addressee: BRENDA FOSS PLYMOUTH (ME) RESIDENT
MIKE FOSS PLYMOUTH (ME) RESIDENT
Doc Type: LETTER
Doc Date: 04/06/2005 **# of Pages:** 3
File Break: 06.02

249989 **RESIDENTAL TAP WATER MONITORING PROGRAM, MARCH 2005 WATER SAMPLING RESULTS**

Author: FLORENCE L CLAUSEN WOODARD & CURRAN INC
Addressee: WILLIAM LOVELY US EPA REGION 1
Doc Type: SAMPLING & ANALYSIS DATA
Doc Date: 04/12/2005 **# of Pages:** 63
File Break: 06.02

06: REMEDIAL DESIGN (RD)

249992 **RESIDENTIAL WATER SAMPLING RESULTS (LOT 36)**

Author: FLORENCE L CLAUSEN WOODARD & CURRAN INC
Addressee: MARK NORRIS PLYMOUTH (ME) RESIDENT
Doc Type: LETTER
Doc Date: 06/29/2005 **# of Pages:** 3
File Break: 06.02

249993 **RESIDENTIAL WATER SAMPLING RESULTS (LOT 32-2)**

Author: FLORENCE L CLAUSEN WOODARD & CURRAN INC
Addressee: ELLEN HAMES PLYMOUTH (ME) RESIDENT
Doc Type: LETTER
Doc Date: 06/29/2005 **# of Pages:** 7
File Break: 06.02

249994 **RESIDENTIAL WATER SAMPLING RESULTS (LOT 31 KNIGHT)**

Author: FLORENCE L CLAUSEN WOODARD & CURRAN INC
Addressee: AMIE KNIGHT PLYMOUTH (ME) RESIDENT
BRUCE KNIGHT PLYMOUTH (ME) RESIDENT
Doc Type: LETTER
Doc Date: 06/29/2005 **# of Pages:** 3
File Break: 06.02

06: REMEDIAL DESIGN (RD)

249995 **RESIDENTIAL WATER SAMPLING RESULTS (LOT 8-1)**

Author: FLORENCE L CLAUSEN WOODARD & CURRAN INC
Addressee: BRENDA FOSS PLYMOUTH (ME) RESIDENT
MIKE FOSS PLYMOUTH (ME) RESIDENT
Doc Type: LETTER
Doc Date: 06/29/2005 **# of Pages:** 3
File Break: 06.02

249996 **RESIDENTIAL WATER SAMPLING RESULTS (LOT 7)**

Author: FLORENCE L CLAUSEN WOODARD & CURRAN INC
Addressee: LELAND MELANSON PLYMOUTH (ME) RESIDENT
TERRI MELANSON PLYMOUTH (ME) RESIDENT
Doc Type: LETTER
Doc Date: 06/29/2005 **# of Pages:** 5
File Break: 06.02

249997 **RESIDENTIAL WATER SAMPLING RESULTS (LOT 11-2)**

Author: FLORENCE L CLAUSEN WOODARD & CURRAN INC
Addressee: DEAN WARD PLYMOUTH (ME) RESIDENT
SERENA WARD PLYMOUTH (ME) RESIDENT
Doc Type: LETTER
Doc Date: 06/29/2005 **# of Pages:** 3
File Break: 06.02

06: REMEDIAL DESIGN (RD)

249998 **RESIDENTIAL WATER SAMPLING RESULTS (LOT 31)**

Author: FLORENCE L CLAUSEN WOODARD & CURRAN INC
Addressee: BRENDA HOPKINS PLYMOUTH (ME) RESIDENT
GALEN HOPKINS PLYMOUTH (ME) RESIDENT
Doc Type: LETTER
Doc Date: 06/29/2005 **# of Pages:** 3
File Break: 06.02

249999 **RESIDENTIAL WATER SAMPLING RESULTS (LOT 4)**

Author: FLORENCE L CLAUSEN WOODARD & CURRAN INC
Addressee: KATHY NEWTON PLYMOUTH (ME) RESIDENT
KENNETH WHEELER PLYMOUTH (ME) RESIDENT
Doc Type: LETTER
Doc Date: 06/29/2005 **# of Pages:** 3
File Break: 06.02

251702 **RESIDENTIAL WATER SAMPLING RESULTS (LOT 83)**

Author: FLORENCE L CLAUSEN WOODARD & CURRAN INC
Addressee: DENNIS MCATEE PLYMOUTH (ME) RESIDENT
JUDY MCATEE PLYMOUTH (ME) RESIDENT
Doc Type: LETTER
Doc Date: 06/29/2005 **# of Pages:** 5
File Break: 06.02

06: REMEDIAL DESIGN (RD)

251703 **RESIDENTIAL WATER SAMPLING RESULTS (LOT 38)**

Author: FLORENCE L CLAUSEN WOODARD & CURRAN INC
Addressee: BETTY DORT PLYMOUTH (ME) RESIDENT
RICHARD DORT PLYMOUTH (ME) RESIDENT
Doc Type: LETTER
Doc Date: 06/29/2005 **# of Pages:** 3
File Break: 06.02

251704 **RESIDENTIAL WATER SAMPLING RESULTS (LOT 37)**

Author: FLORENCE L CLAUSEN WOODARD & CURRAN INC
Addressee: DAVID CONNORS PLYMOUTH (ME) RESIDENT
SHEILA CONNORS PLYMOUTH (ME) RESIDENT
Doc Type: LETTER
Doc Date: 06/29/2005 **# of Pages:** 3
File Break: 06.02

251705 **RESIDENTIAL WATER SAMPLING RESULTS (LOT 11-1)**

Author: FLORENCE L CLAUSEN WOODARD & CURRAN INC
Addressee: PAM GODSOE PLYMOUTH (ME) RESIDENT
Doc Type: LETTER
Doc Date: 06/29/2005 **# of Pages:** 3
File Break: 06.02

06: REMEDIAL DESIGN (RD)

251706 **RESIDENTIAL WATER SAMPLING RESULTS (LOT 11-3)**

Author: FLORENCE L CLAUSEN WOODARD & CURRAN INC
Addressee: BRENDA DERAPS PLYMOUTH (ME) RESIDENT
TIM DERAPS PLYMOUTH (ME) RESIDENT
Doc Type: LETTER
Doc Date: 06/29/2005 **# of Pages:** 5
File Break: 06.02

251707 **RESIDENTIAL WATER SAMPLING RESULTS (LOT 84-1)**

Author: FLORENCE L CLAUSEN WOODARD & CURRAN INC
Addressee: GARY SMITH PLYMOUTH (ME) RESIDENT
JAYNE SMITH PLYMOUTH (ME) RESIDENT
Doc Type: LETTER
Doc Date: 06/29/2005 **# of Pages:** 3
File Break: 06.02

251708 **RESIDENTIAL WATER SAMPLING RESULTS (LOT 83-1)**

Author: FLORENCE L CLAUSEN WOODARD & CURRAN INC
Addressee: ALBERT GRAY PLYMOUTH (ME) RESIDENT
PEGGY GRAY PLYMOUTH (ME) RESIDENT
Doc Type: LETTER
Doc Date: 06/29/2005 **# of Pages:** 3
File Break: 06.02

06: REMEDIAL DESIGN (RD)

251709 **RESIDENTIAL WATER SAMPLING RESULTS (LOT 2)**

Author: FLORENCE L CLAUSEN WOODARD & CURRAN INC
Addressee: TERRY SKIDGEL PLYMOUTH (ME) RESIDENT
Doc Type: LETTER
Doc Date: 06/29/2005 **# of Pages:** 3
File Break: 06.02

251710 **RESIDENTIAL WATER SAMPLING RESULTS (LOT 21-16)**

Author: FLORENCE L CLAUSEN WOODARD & CURRAN INC
Addressee: MICHAEL LEVESQUE PLYMOUTH (ME) RESIDENT
Doc Type: LETTER
Doc Date: 06/29/2005 **# of Pages:** 3
File Break: 06.02

251711 **RESIDENTIAL WATER SAMPLING RESULTS (LOT 11-4)**

Author: FLORENCE L CLAUSEN WOODARD & CURRAN INC
Addressee: KELLEY LEATHERS PLYMOUTH (ME) RESIDENT
RALPH LEATHERS PLYMOUTH (ME) RESIDENT
Doc Type: LETTER
Doc Date: 06/29/2005 **# of Pages:** 3
File Break: 06.02

06: REMEDIAL DESIGN (RD)

249991 **TABLES 1 AND 2, QUARTERLY AND ANNUAL WATER MONITORING RESULTS**

Author: WOODARD & CURRAN
Addressee:
Doc Type: SAMPLING & ANALYSIS DATA
Doc Date: 07/01/2005 **# of Pages:** 100
File Break: 06.02

249990 **RESIDENTIAL TAP WATER MONITORING PROGRAM, JUNE 2005 WATER SAMPLING RESULTS**

Author: FLORENCE L CLAUSEN WOODARD & CURRAN INC
Addressee: TERRENCE R CONNELLY US EPA REGION 1
Doc Type: SAMPLING & ANALYSIS DATA
Doc Date: 07/07/2005 **# of Pages:** 104
File Break: 06.02

251712 **RESIDENTIAL TAP WATER MONITORING PROGRAM, SEPTEMBER 2005 WATER SAMPLING RESULTS**

Author: FLORENCE L CLAUSEN WOODARD & CURRAN INC
Addressee: TERRENCE R CONNELLY US EPA REGION 1
Doc Type: SAMPLING & ANALYSIS DATA
Doc Date: 10/12/2005 **# of Pages:** 66
File Break: 06.02

251714 **TABLE 1, RESIDENTIAL TAP WATER MONITORING PROGRAM, DECEMBER 2005 WATER SAMPLING RESULTS**

Author: WOODARD & CURRAN
Addressee:
Doc Type: SAMPLING & ANALYSIS DATA
Doc Date: 01/01/2006 **# of Pages:** 101
File Break: 06.02

06: REMEDIAL DESIGN (RD)

251715 **RESIDENTIAL WATER SAMPLING RESULTS (LOT 36)**

Author: FLORENCE L CLAUSEN WOODARD & CURRAN INC
Addressee: MARK NORRIS PLYMOUTH (ME) RESIDENT
Doc Type: LETTER
Doc Date: 01/03/2006 **# of Pages:** 3
File Break: 06.02

251716 **RESIDENTIAL WATER SAMPLING RESULTS (LOT 7)**

Author: FLORENCE L CLAUSEN WOODARD & CURRAN INC
Addressee: LELAND MELANSON PLYMOUTH (ME) RESIDENT
TERRI MELANSON PLYMOUTH (ME) RESIDENT
Doc Type: LETTER
Doc Date: 01/03/2006 **# of Pages:** 5
File Break: 06.02

251717 **RESIDENTIAL WATER SAMPLING RESULTS (LOT 31 KNIGHT)**

Author: FLORENCE L CLAUSEN WOODARD & CURRAN INC
Addressee: AMIE KNIGHT PLYMOUTH (ME) RESIDENT
BRUCE KNIGHT PLYMOUTH (ME) RESIDENT
Doc Type: LETTER
Doc Date: 01/03/2006 **# of Pages:** 3
File Break: 06.02

06: REMEDIAL DESIGN (RD)

251718 **RESIDENTIAL WATER SAMPLING RESULTS (LOT 2)**

Author: FLORENCE L CLAUSEN WOODARD & CURRAN INC
Addressee: SID SKIDGEL PLYMOUTH (ME) RESIDENT
Doc Type: LETTER
Doc Date: 01/03/2006 **# of Pages:** 3
File Break: 06.02

251719 **RESIDENTIAL WATER SAMPLING RESULTS (LOT 31)**

Author: FLORENCE L CLAUSEN WOODARD & CURRAN INC
Addressee: BRENDA HOPKINS PLYMOUTH (ME) RESIDENT
GALEN HOPKINS PLYMOUTH (ME) RESIDENT
Doc Type: LETTER
Doc Date: 01/03/2006 **# of Pages:** 3
File Break: 06.02

251720 **RESIDENTIAL WATER SAMPLING RESULTS (LOT 21-16)**

Author: FLORENCE L CLAUSEN WOODARD & CURRAN INC
Addressee: MICHAEL LEVESQUE PLYMOUTH (ME) RESIDENT
Doc Type: LETTER
Doc Date: 01/03/2006 **# of Pages:** 3
File Break: 06.02

06: REMEDIAL DESIGN (RD)

251721 **RESIDENTIAL WATER SAMPLING RESULTS (LOT 11-3)**

Author: FLORENCE L CLAUSEN WOODARD & CURRAN INC
Addressee: BRENDA DERAPS PLYMOUTH (ME) RESIDENT
TIM DERAPS PLYMOUTH (ME) RESIDENT
Doc Type: LETTER
Doc Date: 01/03/2006 **# of Pages:** 5
File Break: 06.02

251722 **RESIDENTIAL WATER SAMPLING RESULTS (LOT 8-1)**

Author: FLORENCE L CLAUSEN WOODARD & CURRAN INC
Addressee: BRENDA FOSS PLYMOUTH (ME) RESIDENT
MIKE FOSS PLYMOUTH (ME) RESIDENT
Doc Type: LETTER
Doc Date: 01/03/2006 **# of Pages:** 5
File Break: 06.02

251723 **RESIDENTIAL WATER SAMPLING RESULTS (LOT 11-1)**

Author: FLORENCE L CLAUSEN WOODARD & CURRAN INC
Addressee: PAM GODSOE PLYMOUTH (ME) RESIDENT
Doc Type: LETTER
Doc Date: 01/03/2006 **# of Pages:** 3
File Break: 06.02

06: REMEDIAL DESIGN (RD)

251724 **RESIDENTIAL WATER SAMPLING RESULTS (LOT 32-2)**

Author: FLORENCE L CLAUSEN WOODARD & CURRAN INC
Addressee: ANTHONY CURTIS PLYMOUTH (ME) RESIDENT
Doc Type: LETTER
Doc Date: 01/03/2006 **# of Pages:** 5
File Break: 06.02

251725 **RESIDENTIAL WATER SAMPLING RESULTS (LOT 11-2)**

Author: FLORENCE L CLAUSEN WOODARD & CURRAN INC
Addressee: DEAN WARD PLYMOUTH (ME) RESIDENT
SERENA WARD PLYMOUTH (ME) RESIDENT
Doc Type: LETTER
Doc Date: 01/03/2006 **# of Pages:** 3
File Break: 06.02

251713 **RESIDENTIAL TAP WATER MONITORING PROGRAM, DECEMBER 2005 WATER SAMPLING RESULTS**

Author: FLORENCE L CLAUSEN WOODARD & CURRAN INC
Addressee: TERRENCE R CONNELLY US EPA REGION 1
Doc Type: SAMPLING & ANALYSIS DATA
Doc Date: 01/10/2006 **# of Pages:** 70
File Break: 06.02

Number of Documents in Collection77

EPA Region 1 AR Compendium GUIDANCE DOCUMENTS

EPA guidance documents may be reviewed at the EPA Region I Superfund Records Center in Boston, Massachusetts.

TITLE
GUIDANCE FOR EVALUATING THE TECHNICAL IMPRACTICABILITY OF GROUND-WATER RESTORATION.

DOCDATE	OSWER/EPA ID	DOCNUMBER
9/1/1993	EPA 540-R-93-080	C532

TITLE
DRAFT GUIDANCE FOR EVALUATING THE VAPOR INTRUSION TO INDOOR AIR PATHWAY FROM GROUNDWATER AND SOILS (SUBSURFACE VAPOR INTRUSION GUIDANCE)

DOCDATE	OSWER/EPA ID	DOCNUMBER
10/20/2002		C574

TITLE
STRATEGY TO ENSURE INSTITUTIONAL CONTROL IMPLEMENTATION AT SUPERFUND SITES

DOCDATE	OSWER/EPA ID	DOCNUMBER
9/1/2004	OSWER NO. 9355.0-106	C575

TITLE
THE DNAPL REMEDIATION CHALLENGE: IS THERE A CASE FOR SOURCE DEPLETION?

DOCDATE	OSWER/EPA ID	DOCNUMBER
12/1/2003	EPA/600/R-03/143	C581
